

MANUFACTURERS' RECORD

A Weekly

Southern Industrial and Hardware

Newspaper.

VOL. XVI. No. 3. WEEKLY.

BALTIMORE, AUGUST 24, 1889.

\$4.00 A YEAR.
SINGLE COPIES, 10 CENTS



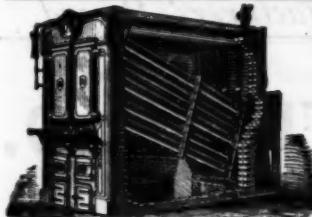
Milling Outfits for Flour and Meal.

WE MAKE ROLLS AND PORTABLE MILLS COMPLETE.

Manufactory Established in 1851.

Pamphlets with Prices Mailed Free.

NORDYKE & MARMON CO., INDIANAPOLIS, IND.



ROOT'S NEW WATER TUBE STEAM BOILER,

Safe, Economical, Durable.

Recently adopted by the BRUSH ELECTRIC LIGHT CO., at Louisville, the EDISON ELECTRIC LIGHT CO., Detroit, and the COLUMBUS EDISON ELECTRIC LIGHT CO., Columbus, Ohio.

Abendroth & Root Manufacturing Co.
28 CLIFF STREET. - - - - - NEW YORK.

SELLING AGENTS:

CHAR. H. ASHROFT, Eng., 10 Main Street, Boston, Mass.
W. MERRILL, 149 N. Third Street, Philadelphia, Pa.
SMITH & KNAPP, 65 S. Canal Street, Chicago, Ill.
JOHN H. MOORE, 360 Gravier Street, New Orleans, La.
MORTON, REED & CO., Baltimore, Md.

ELEVATORS

Send for Illustrated Circulars.

MORSE ELEVATOR WORKS.

MORSE, WILLIAMS & CO. SUCCESSORS TO CLEM & MORSE.

Manufacturers and Builders of HYDRAULIC STEAM, BELT and HAND-POWER PASSENGER and FREIGHT ELEVATORS. With most approved Safety Devices. Dumb-Waiters, Automatic Hatch-Doors, &c. Office, 1105 FRANKFORT AVE.; Works, FRANKFORT AVE., WILDEY and SHACKANAXON STREET, PHILADELPHIA, PA. Branch Office, 108 Liberty St., New York. MORTON, REED & CO., 3 & 5 German St., Agents for Baltimore. Boston Office, 14 High St.

THE NEW INGERSOLL-SERGEANT AIR-COMPRESSOR.

In Design, Material and Workmanship the best in the market. Automatic and Adjustable Regulation for Air and Steam—Cooling by Water Circulation—Thorough and Automatic Lubrication; accomplishing the most economical production of Compressed-Air Power.

INGERSOLL ROCK DRILLS SERGEANT

Four-Fifths of the Rock on the New Croton Aqueduct was removed by Ingersoll Drills, where the AVERAGE RECORD of Tunnel Progress shown by the Engineers' Tables was so per cent. in advance of other drills. Twenty-Four of the Twenty-Eight large Tunnels which have been driven with Machine Drills in this country have employed the Ingersoll Drill. Seventy-Five per cent. of the Metal produced from machine mined ore in the United States during 1888 was mined by Ingersoll and Sergeant Drills.

STONE-CHANNELING MACHINES. COAL-CUTTERS.

THE BULLDOG DIAMOND CORE PROSPECTING DRILLS,

and Complete Plants of Mining, Tunneling and Quarrying Machinery.

INGERSOLL-SERGEANT ROCK DRILL COMPANY, 10 Park Place, New York.



THOS. K. CAREY & BROS. Agents for the Dodge INDUSTRY PATENT Wood Split Pulleys.

Machinery, Mill and Railroad Supplies.

26 Light Street, Baltimore, Md.

Carrying Car-Load Lots of Assorted Sizes in their Warehouse in Baltimore.

WRITE FOR PRICE-LISTS AND DISCOUNT.



The Milburn Patent Wood Split Pulleys are the Best in the World.

Cotton Gins, Engines and "Self Packing" Hydraulic Presses, Boilers, Gins, Feeders and Condensers.

Write for Illustrated Catalogue and Price List.

MILBURN GIN & MACHINE CO., MEMPHIS, TENN.



25 to 60 per cent. more power with same belt than iron pulleys.
LIGHT, STRONG AND CONVENIENT.

Every One Guaranteed.

LEONARD & MCROY, Agents, 118 Liberty Street, New York.

SMITH & COURTNEY, Agents, Richmond, Va.

E. VAN WINKLE GIN & MACHINERY CO., Atlanta, Ga.



FOR SALE.
300 tons selected second-hand 35-lb. Iron Rails, for delivery at Cincinnati or Portsmouth, O. Address, ROBINSON & SRR, PITTSBURGH, PA.

WE BUY OLD IRON and STEEL RAILS.

FOR SALE.

Rails (all weights), Splice Bars, Bolts, Spikes, Switches, &c. Correspondence solicited. Address, ROBINSON & SRR, PITTSBURGH, PA.

FRANK W. SWETT, MANUFACTURER OF BAND SAWS, 68 & 70 S. CANAL ST. CHICAGO, ILL. Every Blade Warranted.

The Sawyer-Man Electric Co.

(Leased to the WESTINGHOUSE ELECTRIC COMPANY)

510 W. 23d Street, New York.

INCANDESCENT ELECTRIC LAMPS,
Supplies for Electric Lighting,
Electric and Combination Fixtures.

CORRESPONDENCE WITH DEALERS INVITED.

Daft Electric Light Company,
115 BROADWAY, N. Y.

ELECTRIC RAILWAYS,
POWER STATIONS,
Stationary Electric Motors.

PLEASE MENTION MANUFACTURERS' RECORD.

THE HEISLER PATENT Long Distance Incandescent Electric Light System.

UNEQUALLED FOR DISTRIBUTION OVER WIDE AREAS.

SPECIALLY ADAPTED FOR STREET, COMMERCIAL
AND DOMESTIC ILLUMINATION FROM CENTRAL
STATIONS. Plant may be located where power can be
secured cheapest, even if miles distant from the lighting. Safety,
Reliability, and Financial Success fully demonstrated. Plan of
Wiring the Simplest, Cheapest and most Efficient. Strictly
Series. Noted for the Brilliance and Beauty of the Light
Lamps, 10 to 100 Candle Power; Long Life without Blackening.
Dynamo Self-contained and perfectly Automatic.



Heisler Electric Light Company,

809 to 817 South Seventh Street, ST. LOUIS, MO.

Electric Power.

A Monthly Journal devoted to the interests of the Electric Railway and the Transmission of Power by Electricity for Industrial purposes.

The only Journal in the world devoted exclusively to transmission of power.

Its circulation embraces Electrical, Mechanical, Mining, Hydraulic and Civil Engineers, and Officers and Employees of Street and Electrical Railways. Send for sample copy.

ELECTRIC POWER PUBLISHING CO.

132 Nassau, Cor. Beekman St., New York.

Subscribe to the Manufacturers' Record.

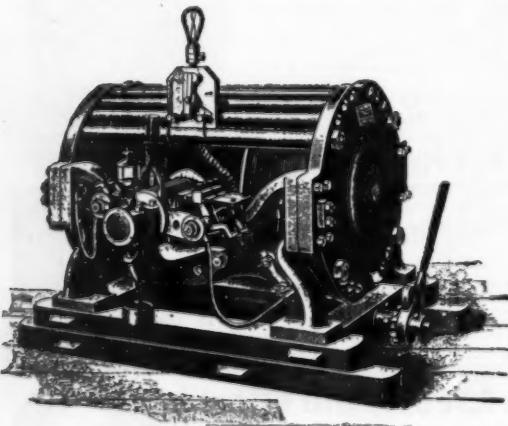
The Thomson-Houston Electric Co.

MANUFACTURER AND CONTRACTOR

FOR THE

INSTALLATION OF

Incandescent Lighting Plants.



The Thomson-Houston Dynamos are automatic in regulation under all changes in load. Any decrease in the number of lamps burning is followed by a corresponding decrease in the amount of power required by the dynamo.

The lamps, under repeated tests, have burned two and three times their guaranteed life without any blackening of the bulb or diminution of the candle power.

ESTIMATES FURNISHED FOR COMPLETE INSTALLATIONS

For Central Stations, Mills, Factories and Public Buildings.

The THOMSON-HOUSTON ELECTRIC CO.

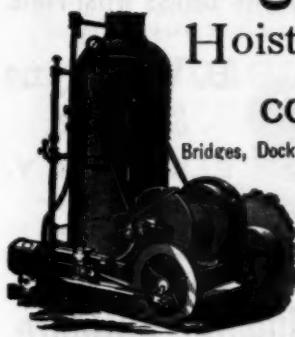
620 Atlantic Avenue, BOSTON, MASS.
WALL AND LOYD STREETS, ATLANTA, GA.

148 Michigan Avenue, CHICAGO, ILL.
215 West Fourth Street, Cincinnati, O.

RIEHL'S TESTING MACHINES & SCALES.

RIEHL'S BROS., Store, 18 Market
St. Works 9th above Master, Phila.
New York Store, 90 Liberty St.

Hoisting Engines for Mines, Furnace & Factory



Hoisting • Machinery

FOR

CONTRACTORS,

Bridges, Dock Building, Pile Driving and Excavating.

300 STYLES AND SIZES.

OVER 5,000 IN USE.

AGENTS:

MORTON, REED & CO., Baltimore, Md.
MILNER & KETTIG, Birmingham, Ala.

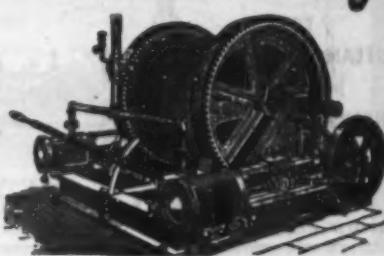
• MINE •

AND

FURNACE HOISTS,

Horizontal Engines

FOR MANUFACTURING.



New Catalogue for 1889 now ready.

LIDGERWOOD MFG. CO.

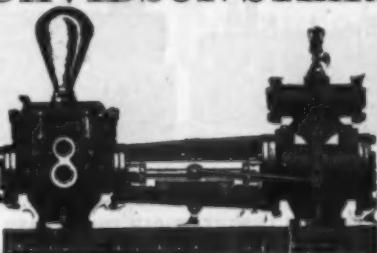
96 LIBERTY STREET, NEW YORK.
34 & 36 WEST MONROE STREET, CHICAGO.
107 TO 203 CONGRESS STREET, BOSTON.



H. A. ROGERS, 19 John Street,
NEW YORK.
RAILWAY
AND
Machinists' Supplies.
SOLE AGENTS IN THE U. S. FOR
Moncreif's Scotch Gauge Glasses.
GENERAL AGENT CELEBRATED TANITE EMERY WHEELS.

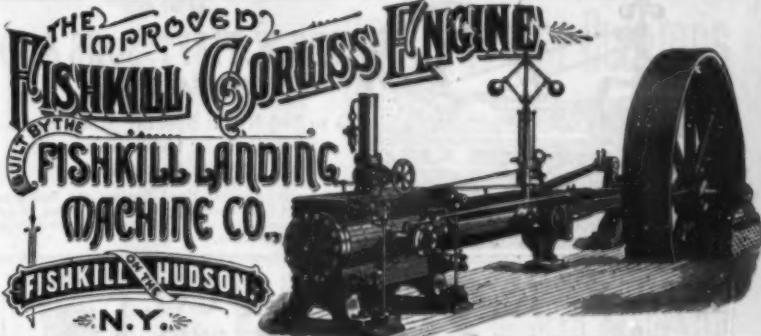
The M. T. DAVIDSON STEAM PUMP.

Simple,
EFFICIENT,
Reliable,
FOR ALL
PURPOSES
AND
DUTIES.



MADE IN
ALL SIZES,
WHETHER
SINGLE OR
Duplex.
ALSO
COMPOUND
Pumping
ENGINES.

DAVIDSON STEAM PUMP CO., 77 Liberty St., NEW YORK.



AMERICAN SUPPLY COMPANY,

Formerly Myron Fish & Co., of Valley Falls, R. I., and Kendrick Loom Harness Co., of Providence, R. I.

—MANUFACTURERS OF—

LOOM HARNESS AND REEDS.

Oak Belting, Lace and Picker Leather, and Dealers in Supplies for Cotton, Woolen and Silk Mills.

Agents for Joseph McOon's Sons.
Roller, Slasher & Clearing Cloths.

Agents for
RODDICK'S PATENT IMPROVED OIL CANS.

Cat, Sheep and Lamb Roller Skins, and Roll Covers' Tools.



Special Notice to Worsted and Silk Mills.

We Manufacture both Worsted and Cotton Machine-Knit Mail Harness for Weaving Fine Worsted and Silk Goods. Also a Full Line of Supplies for Jacquard Looms.

Office and Salesrooms, 10 Exchange Place, Providence, R. I. —FACTORIES:— PROVIDENCE and VALLEY FALLS, R. I.

A. D. LOCKWOOD, Pres. JOHN KENDRICK, Vice-Pres. MYRON FISH, Secy. JOHN A. CARTER, Secy. JOSEPH H. KENDRICK, Gen'l Ass't.

WE HAVE
Unequalled Facilities for Furnishing
Shuttles, Heddle Frames,
Wire Heddles, Wire Goods
Or all Descriptions.

WE HAVE

Shuttles, Heddle Frames,
Wire Heddles, Wire Goods

Or all Descriptions.

MANUFACTURERS' RECORD.

Southwark Foundry & Machine Company
Philadelphia, Penna.

BOILERS.

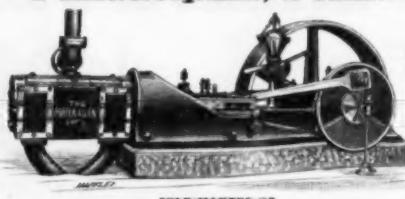
TANKS.

STEAM

HAMMERS.

HEAVY

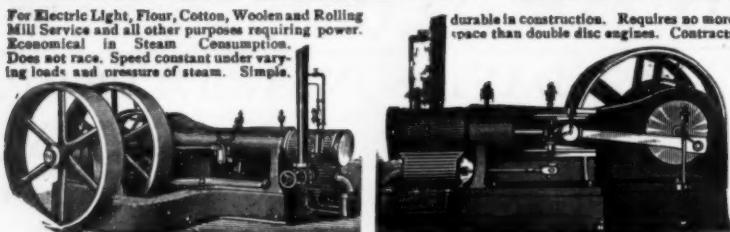
CASTINGS.



BLOWING AND
REVERSING
ENGINES.
CENTRIFUGAL
PUMPS.
STEAM PUMPS.

PORTER-ALLEN AUTOMATIC ENGINE.
HIGH ECONOMY. DURABILITY. CLOSE REGULATION**BECK AUTOMATIC ENGINE.**

For Electric Light, Flour, Cotton, Woolen and Rolling
Mill Service and all other purposes requiring power.
Economical in Steam Consumption.
Does not race. Speed constant under varying
loads and pressure of steam. Simple.



taken for complete steam plants, including boilers and all connections, masonry and erection. All work
guaranteed. Send for catalogue and full particulars. Also builders of Portable, Vertical and Stationary
Engines. Boilers of all styles, and Saw Mills. Address TATLER MFG. CO., Chambersburg, Pa.

— FOR THE LOWEST-PRICED FIRST-CLASS —
ENGINES & BOILERS

ADDRESS

GEO. W. TIFFT, SONS & CO.
BUFFALO, N. Y.5 to 500 H. P. Special Stock Sizes 5
to 50 H. P., 5th Stationary and
Semi-Portable.

A few good Second-Hand Engines and Boilers are
for sale at an astonishingly low figure. Must be sold
to make room for sto Correspondence solicited.
Mention this paper.

ALEX. K. RARIG & CO.

COLUMBUS, OHIO,
MANUFACTURERS OF
Automatic Cut-off Engines,
HOISTING ENGINES.
Boilers, Boiler Plate Punches,
ROLLS AND SHEARS.
Clay-Working Machinery

Steam Sewer Pipe Presses,
Socket Pipe, Tile and Fire-Proof Dies, Wet and Dry Pans for Grinding and
Tempering Clay for Sewer Pipe, Terra Cotta, Brick and Tile. We furnish complete
outfits for Sewer Pipe and Brick Plants. Write for catalogue. Correspondence
solicited. Mention this paper.

**SKINNER ENGINE CO., ERIE, PA.**
MANUFACTURERS OF PORTABLE AND STATIONARY
ENGINES AND BOILERS
OVER 3400 IN USE.SEND FOR CATALOGUE.
MORTON, REED & CO., AGENTS, BALTIMORE, MD.
NEW YORK and NEW ENGLAND OFFICE, C. R. VINCENT & CO., 15 Cortlandt St., N. Y.**JARVIS Patent FURNACE**

For Setting Steam Boilers.

Economy of Fuel, with increased capacity of Steam
Power. Like the Siemens Process of Making
Steel, it utilizes the waste gasses with hot air on top of
the fire. Will burn all kinds of waste fuel without a
blast, including Slack Coal, Sawdust, Logwood Chips,
etc. Send for Circulars.

JARVIS ENGINEERING CO.J. N. PRATT, Treas. and Gen'l Manager.
61 Oliver Street, BOSTON, MASS.**SOUTHERN REFERENCES:**

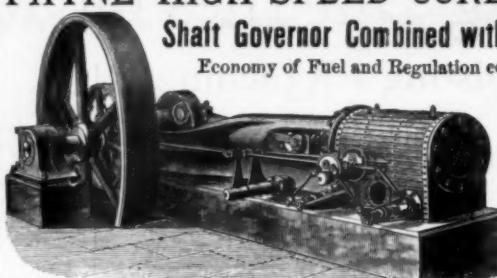
Eagle & Phenix Mfg. Company, Columbus, Ga.
Anniston Mfg. Co., Anniston, Ala.
P. King Mfg. Co., Augusta, Ga.
Rose Mining Co., Charleston, S. C.
Maryland Pavement Co., Baltimore, Md.
Brush Electric Light Co., Baltimore, Md.
Eureka, Matsonia and Battersea Mfg. Co's.,
Petersburg, Va.
Rasin Fertilizing Co., Baltimore, Md.
Tanner & Delaney Engine Co., Richmond, Va.
Sibley Mills, Augusta, Ga.

Graniteville Mfg. Co., Graniteville, S. C.
Charleston Bagging Co., Charleston, S. C.
F. H. Mayo & Bros., Richmond, Va.
Phosphate Mining Co., Beaufort, S. C.
Brush-Swan Electric Light Co., Norfolk, Va.
Columbus Ice & Refrigerator Co., Columbus,
Ga.
Lenoir Manufacturing Co., Lenoir, East Tennessee.
Vandeleuse Mill, Graniteville, S. C.
Charleston Electric Light Co., Charleston, S. C.

PAYNE HIGH-SPEED CORLISS ENGINE.

Shaft Governor Combined with Corliss Wrist-Plate.

Economy of Fuel and Regulation equal to anything in use.

**B. W. Payne & Sons,**
ELMIRA, N. Y.45 Dey Street, New York.
10 S. Canal St., Chicago, Ill.**ECLIPSE CORLISS ENGINES.****Frick Company, Engineers, Builders,**
WAYNESBORO, PA.—40 to 1,000 H. P.
Made.

Condensing, Non-Condensing & Compound.

Send for Corliss Circular.

Ice-Making and
Refrigerating
Machinery.

Send for Ice-Machine Circular.

Special Automatic Electric Light Engines, Steam Boilers, Traction
and Portable Engines, Saw Mills. Send for our General Catalogue.**Foundry and Machine Dept.**
HARRISBURG CAR MANUFACTURING CO.
HARRISBURG, PA.

Manufacturers of the IDE Automatic
Engine, Compound and Standard pat-
terns. Also builders of boilers and com-
plete power plants. New York Office,
Messrs. Fleming & Kimball, 17 Dey street.
New England Office, Messrs. John Post, Jr.
& Co., 20 Kirby street, Boston. Baltimore
Office, Messrs. Thomas K. Carey & Bro.,
6 Light street, Baltimore.

The Beckett Foundry & Machine Co.

ARLINGTON, N. J.

MANUFACTURERS OF THE

"Munzer" Corliss Engine

Also Plain Slide Valve Engines,
Mining and Milling Machinery and
Mine Hoists.

SEND FOR CATALOGUE.

Acme Automatic Engine,
With BRYANT'S Patent Safety Boiler.

Sizes 1, 2 and 4 H. P. Fuel, Kerosene (Coal) Oil, 120° to 250° fire test.
No dust, ashes, or smoke. No Skilled Engineer required. "Brake" Tests
show that 3½ gals. fuel will deliver a full H. P. on belt for 10 hours, in the
case of our 1 H. P. Engine and Boiler.

Rochester Machine Tool Works,
BUILDERS, ROCHESTER, N. Y.
SEND FOR CATALOGUE.**STEAM ENGINES****STEAM ENGINES**Adapted to Heavy, Continuous Work. Every Engine tested
under full load. For descriptive circulars, address

Chandler & Taylor, Indianapolis, Ind.

CLEVELAND AND HARDWICK-ERIE ENGINE WORKS.
MANUFACTURERS OF STEAM ENGINES
AND BOILERS. ERIE, PENNA.**Wm. A. HARRIS STEAM ENGINE CO.**
(Successors to Wm. A. Harris,) PROVIDENCE, R. I.
Builders of HARRIS-CORLISS ENGINES,
FROM 30 TO 2,000 HORSE POWER.

These Engines are carefully built of best materials and in different forms, such as Non-Condensing,
Condensing and Compound Condensing. Send for copy of ENGINEERS AND STEAM USERS' MANUAL, by
W. Hill, M. E. \$1.25. Mention this paper and send for catalogue. WM. A. HARRIS, Pres. & Treas.
The D. A. TOMPKINS CO., CHARLOTTE, N. C., Southern Agents.

NEW YORK

XUM

Wood Working Machinery

COMPLETE OUTFITS FOR PLANING MILLS

H. B. SMITH MACHINE CO.

Send for catalogue and visit our extensive warerooms if possible.

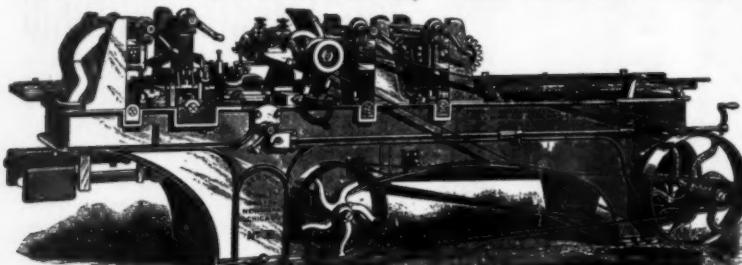
925 MARKET STREET.

PHILADA, PA., U. S. A.

S. A. WOODS MACHINE CO.

Manufacturers of and Dealers in

Wood-Working Machinery,



Planing and Moulding Machines a Specialty.

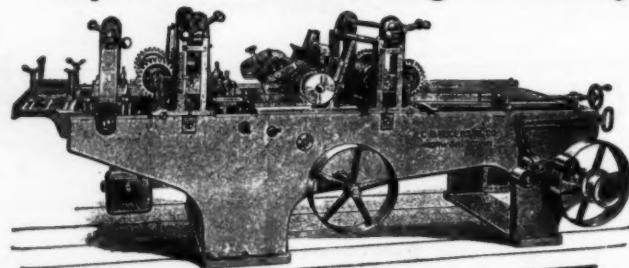
Send for new Illustrated Catalogue just issued.

Warerooms—91 Liberty Street, NEW YORK. 172 High Street, BOSTON. 61 S. Canal Street, CHICAGO. Works—SOUTH BOSTON, MASS.

C. B. ROGERS & CO.

MAKERS OF Improved Wood-Working Machinery.

PLANERS.



MOLDERS.

MORTISERS, TENONERS, BAND AND SCROLL SAWS, &c.

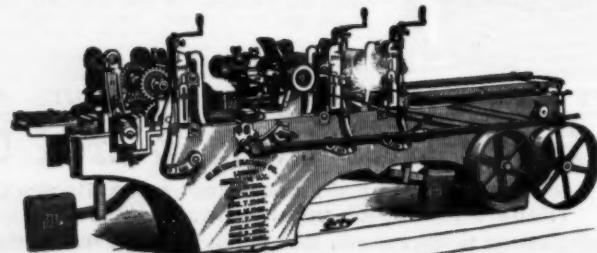
Office and Works, Norwich, Conn. Wareroom, 109 Liberty Street, N. Y.

THOS. K. CAREY & BROS., AGENTS, BALTIMORE, MD.

Glen Cove Machine Co., Limited,

—MANUFACTURERS OF—

IMPROVED PLANING MILL MACHINERY.



No. 2.—Fast-Feed Planing and Matching Machine. 13 feet 9 inches long. Weighs 5,000 pounds.

Heavy Fast Feed Planing and Matching Machines, Double Surfacing, and Inside Molding Machines a Specialty.

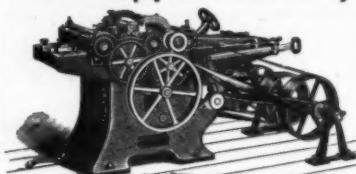
Office and Works. 24 to 30 CLAY ST., BROOKLYN, N. Y.

Wood-Working Machinery.

Circular Saw Mill Machinery, Clapboard and Lath Machinery, Planers, Matchers and Molding Machines, Band and Scroll Saws, Sash, Blind and Door machinery a specialty, Surfacing Machines, Re-Saws, "Buzz" Planers and Veneer Cutting Machinery, Spoke and Axe Handle and Bobbin Machinery, Saws and Belting and General Mill Supplies. Send for catalogue and estimates, stating exactly what is required. Largest machinery dealers in the United States.

W. E. DREW, Agent,
S. C. FORSAITH MACHINE CO. Machinists and General Machinery Dealers. **Manchester, N. H.**

The Clipper Planer, Matcher AND Moulder.



The Best and Most Convenient of its Class on the market. Cut Gearing and all our recent improvements. Cylinder is Double Belted. No Extra Attachment Required for Working Moulding. Weight 3,000 pounds. Write for Special Price.

We are Builders of HIGH-GRADE
Wood-Working Machinery.
SEND FOR ILLUSTRATED CIRCULARS.

INDIANA MACHINE WORKS, Fort Wayne, Ind.

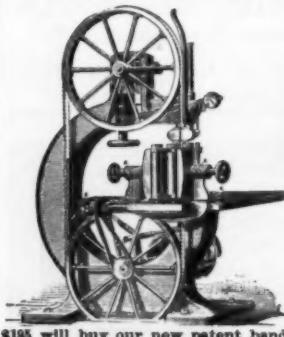


\$80 will buy the best hand saw in the world. \$125 will buy the best Automatic Rip Sawing Machine, weather boarding attachment included, and 12 inch rip saw.

\$100 will buy our new patent 40 inch band saw.

MANUFACTURERS OF

**High Grades
OF
Machinery.**



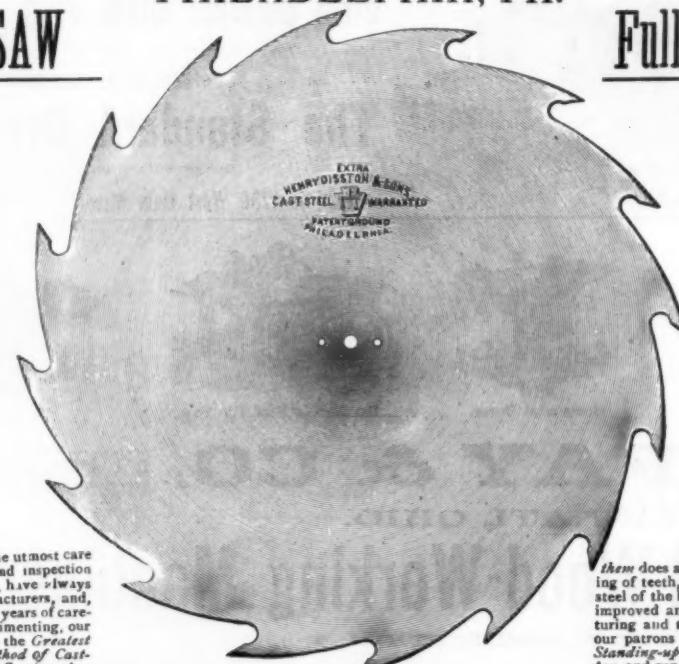
\$185 will buy our new patent band re-sawing machine.

PETER GERLACH & COMPANY, CLEVELAND, OHIO.

Manufacturers of **Alligator Chisel-Bit Saws,**

CHAMPION STAVE, HEADING and SHINGLE MACHINES. Ice Tools and Mill Supplies.

MANUFACTURERS' RECORD.

Established 1840. **HENRY DISSTON & SONS,** Incorporated, Established 1840.**Keystone Saw, Tool, Steel and File Works,**
PHILADELPHIA, PA.**BRANCH HOUSE:**
Cor. Randolph and Market Streets,
CHICAGO, ILL.Send for Price List and Discount Sheet and
New Illustrated Edition of Files.**Every SAW**

We have always taken the utmost care in the manufacture and inspection of our steel and saws, have always headed the list of saw manufacturers, and, we are happy to say, that after years of careful study and expensive experimenting, our efforts have been crowned with the *Greatest Success of the Age, as our Method of Casting Steel Ingots and Process of Compressing*

Fully Warranted.**BRANCH HOUSE:**
923 West Main Street,
LOUISVILLE, KY.

Send for New edition of Lumberman's Hand Book and Sawyer's Pocket Edition.

THE FOR BEST
MACHINERY
FOR
SHINGLES,
HEADING and STAVES,
Veneer Cutters
and Improved
GAUGE LATHES
FOR
Turning Handles, Etc.
ADDRESS:
TREVOR & CO.
LOCKPORT,
I. L.



SAWERS SAY OF SAWs FILED ON ROGERS' SAW FILE AND GUINER, THAT OF ALL THE SAWs THEY EVER SAW AS THESE SAWs, THEY NEVER

BUY AND SELL Second-hand Saw, Stave, Heading Shingle, Hoop Mills, Engines, Boilers, Churn and Ice Machinery, for **CASH**. Address Box 110, Cleveland, Ohio.

them does away with the splitting and spalling of teeth, makes a hard, tough and elastic steel of the highest quality, which, with our improved and patented process of manufacturing and tempering enables us to furnish our patrons with saws that for *Toughness, Standing-up Quality, Uniformity of Temper, and general superiority*,

HAVE NEVER BEEN EQUALLED.

Established 1874.

MANUFACTURERS OF
Taper Shank Drills,
Straight Shank Drills,
Blacksmith Drills,
Bitstock Drills,
Straight Fluted Drills,
Machine Bit Drills

Cleveland Twist Drill Co.

Send for Catalogue. OFFICES—{Cer. of Lake & Kirtland Sts., Cleveland, O.} {101 Chambers Street, New York.} Write for Discounts.

MANUFACTURERS OF
Self-feeding Reamers,
Expanding Reamers,
Shell Reamers,
Stay-bolt Taps,
Taper Reamers

SPECIAL ATTENTION
given to DRILLS for all kinds of
HARDWOOD WORK.

ALSO FOR
Telegraph and Electric Light Service.**Syracuse Twist Drill Company,****SYRACUSE, N. Y.**

ALSO MANUFACTURERS OF
Sweet's Patent Measuring Machine,
Balz Patent Drill Chuck,
Clark's Patent Double Cut Countersink
King's Patent Screw Driver, &c.
Send for Circulars.

—**DAVID BOYLE,**
521 W. Monroe Street, Chicago, Ill.

PATENTEE AND BUILDER OF THE

BOYLE ICE MACHINE
AND REFRIGERATING APPARATUS.

The Most Simple, Reliable, Durable and Economical in Existence.

WHAT PEOPLE SAY.

"I consider it the greatest improvement that has ever been made in breweries."—FRED. PABST, President Ph. Best Brewing Co. "We are thoroughly satisfied with your machine, and we believe it is superior to any other in the market to-day."—HENRY G. KUHRT, President Atlanta City Brewing Co., Atlanta, Ga.

ESTIMATES FOR ICE OR REFRIGERATING MACHINES FURNISHED ON APPLICATION.

REFER TO OVER 131 MACHINES IN SUCCESSFUL OPERATION.

PERFORATED METALS OF EVERY DESCRIPTION BY THE HARRINGTON & KING PERFORATING CO. CHICAGO.

Subscribe to the MANUFACTURERS' RECORD.Price \$4.00 a Year,
Or Six Months for \$2.00.



The Fall River Spool & Bobbin Co.
OF FALL RIVER, MASS.
Manufacture every variety of
SPOOLS AND BOBBINS.

Bobbins, Spools, Shuttles,
AND ALL MANUFACTURERS' WOOD SUPPLIES,
AND SPECIALTIES IN MILL TRADE.

The GREENE & WOOD MFG. CO.
NEW BEDFORD, MASS.

J. A. V. Smith
MANCHESTER, N. H.
Has made more
Steel Fliers
than the aggregate of all
other flier makers.
Has obtained more patents
on Fliers than any other party.
Can make Fliers with the
use of his patents far superior
to any other make.
He incorporates into
every Flier one or more
improvements patented.
Has the best facilities.
Most skilled workmen.
Can make a Flier cheaper.
Guarantees satisfaction.
TRY HIM.

OILLESS BEARINGS
Loose pulleys fitted with Metallized Flanged Bushes—like cut—run for years without oil. Its cleanliness, and obviating the danger of fire from overheated journals, improperly lubricated, especially commends its use in cotton mills. Send for report of Col. Samuel Webber and the testimony of prominent fabric manufacturers on this subject.
North American Metaline Co., 37 Bleeker St., N.Y. City.

W. A. RICHARDSON & CO.
MANUFACTURERS OF STANDARD MEASURING
CLOTH FOLDERS
For Print and Dye Works, Bleacheries, Cotton, Gingham, Delaine Mills, Etc.
P. O. Box 804.

CROMPTON 1888 **WOOL COMBS.**
CROMPTON LOOM WORKS.
WORCESTER, MASS. COTTON, WOOLEN, SILK,
TAPE & CARPET LOOMS.

The Wood Cotton Gin.



For Ginning Sea Island and other
Long Staple varieties.

It does the work rapidly and without breaking
the staple. We back our recommendations
with a warranty.

JOHN HEATHCOTE,
Sole Manufacturer,
Corner Eddy and Friendship Streets,
PROVIDENCE, R. I.

Send for Descriptive Circular.

The Osborn
COTTON GIN
Lubricator.

PATENTED.

Consists in the application of oil to cotton
being ginned. The quality of the cotton
is thereby improved. The friction of the
ginning operation is reduced. There is less
breakage of the fibre, and consequently
a greater average length of staple. The
gin saws are prevented from gumming,
gin cutting is obviated and the liability of
fire from friction is diminished. The above
are some of the advantages resulting from
the use of this improvement. Territory
for sale. Agents wanted. Apply to

C. H. MERRY,
TAZOO CITY, MINN.

Cotton and Woolen
MACHINERY.

50 Crompton Fancy Cotton Looms, nearly
new, 36 inch reed space, for 12 Harnesses,
4 boxes at one end, 1 at the other.

My Store Houses here have over 3 ACRES of
floorage, which is covered with good
machinery, including nearly full systems for Cotton
and Woolen Mills.

JEREMIAH CLARK,
Lowell, Mass. Office, 63 Dutton St.

EASTON & BURNHAM, PAWTUCKET, R. I.
SPINDLE MAKERS AND MACHINISTS.
All kinds of Spindles Used in the Manufacture of COTTON, WOOL and SILK.
Builders of Improved Upright Spoolers.
TO SPOOL FROM CO. SKINS OR HOBINS.

Dyeing, Drying and Finishing Machinery

FOR COTTON WARPS AND PIECE GOODS.

H. W. BUTTERWORTH & SONS,
PHILADELPHIA, PA.

• **WATERS & GARLAND,** •
GENERAL MILL AND FACTORY SUPPLIES

Belting, Packing, Hose, Lace Leather, Wood
Split Pulleys, Pipe and Fittings, Inspirators,
Cotton Waste, Valves, Steam Gauges, &c.

433 MAIN STREET.

Louisville, Ky.

VAN WINKLE GIN & MACHINERY CO.

ATLANTA, GA., and DALLAS, TEX.

MANUFACTURERS OF

Cotton Gins, Feeders

Condensers and Presses,

COTTON SEED OIL MILLS,

SHAFTING, PULLEYS, WIND MILLS, TANKS, PUMPS, Etc.



• **AMERICAN COTTON MACHINERY.** •

PETTEE MACHINE WORKS,
NEWTON UPPER FALLS, MASS.

MAKE A SPECIALTY OF

REVOLVING FLAT CARDS, Latest Pattern.
COMBINATION CARDS, " " "

Arranged with Collars or for Railway Heads.

• **LOW PRICES.** •

CORRESPONDENCE INVITED.

PLANS OF CARD ROOMS FURNISHED.



At Last! A very Simple and Cheap System of Lithography!
Without Stone or Press. Easily Worked by a Boy.

The Black Autocopyst

Furnishes Excellent Copies in Permanent Black and
Solid Lines of anything written or drawn with any pen
using our Special Fluid Ink. Energetic Men
Wanted for State Agents.

M. A. BYRNES, 166 William Street, New York.

BEST AND CHEAPEST.

The Textile Manufacturers' DIRECTORY of the United States and Canada,
COMPRISING WOOLEN, COTTON, SILK, JUTE, FLAX AND LINEN MANUFACTURERS.

Dealers and Brokers in Raw Material, Dry Goods Commission Merchants and Jobbers.

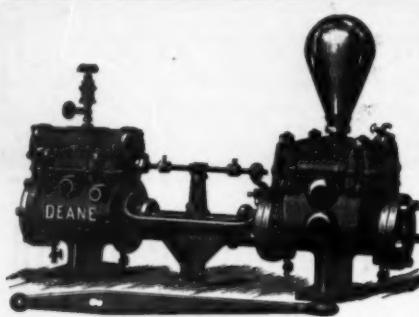
CITY OFFICES AND AGENCIES OF MANUFACTURING COMPANIES AND DYERS OF TEXTILE FABRICS.

Published and for Sale at 320 and 322 BROADWAY, NEW YORK.

H. H. BABCOCK, Treasurer and General Manager.

PRICE \$5.00.

LATEST ISSUE READY FOR DELIVERY.

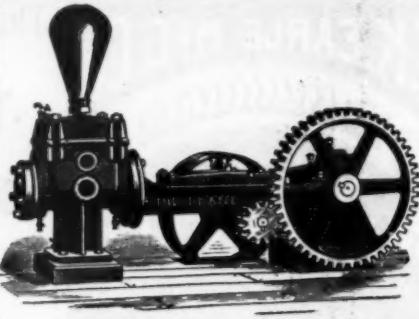


THE DEANE STEAM PUMP CO. HOLYOKE, MASS.

MANUFACTURERS OF
Steam and Power Pumping Machinery,
FOR ALL PURPOSES.

MORTON, REED & CO., Agents, BALTIMORE, MD.

Birmingham Office and Warehouses: No. 6 SOUTH 20th STREET.
Send for New Illustrated Catalogue, No. 22.



WORTHINGTON STEAM PUMPS

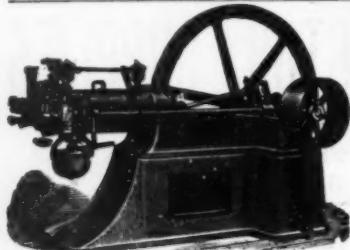
SOUTHERN SELLING AGENTS:
THOS. C. BASSHOR & CO., Baltimore, Md.
KENTUCKY MACHINERY CO., Louisville, Ky.
W. H. PERRY'S MACHINE WORKS, Nashville, Tenn.
LIVERMORE FDRY. & MACH. CO., Memphis, Tenn.
WALTER T. FORBES, Atlanta, Ga.

Boston Philadelphia Chicago St. Louis St. Paul San Francisco

SEND FOR ILLUSTRATED CATALOGUE
HENRY R. WORTHINGTON
NEW YORK.

SOUTHERN SELLING AGENTS:
SMITH & COURTNEY, Richmond, Va.
MECKLENBURG IRON WORKS, Charlotte, N. C.
E. V. WHITE & CO., Norfolk, Va.
M. SCHWARTZ, New Orleans, La.
F. W. HEITMANN & CO., Houston, Texas.

Boston Philadelphia Chicago St. Louis St. Paul San Francisco



Over 10,000 in Use. Otto Gas Engine

Working Without Boiler, Steam, Coal, Ashes or Attendance.
Started Instantly by a Match, it gives full power immediately. When stopped, all expense ceases.
Guaranteed to Consume 25 to 75 Per Cent. less Gas than any other Gas Engine Doing the same Work.
No explosions, no fires nor cinders, no gauges, no pumps, no engineer or other attendant while running. Recommended by insurance companies.
UNSURPASSED IN EVERY RESPECT for hoisting in warehouses, printing, ventilating, running small shops, etc. Sizes: 1 to 25-Horse power.
Branch Office, 151 Monroe St., Chicago, Ill. OTTO GAS ENGINE WORKS, Schleicher, Schumm & Co. 33d & WALNUT STS. PHILADELPHIA.

SOUTHERN MILLS SHOULD NOT HAMPER

their natural advantages by the use of inferior machinery. Use none but the RABBETH SPINDLE. We make the highest grade of Warping, Spooling and Twisting Machinery on the market. Keep note of the improvements that we are constantly introducing.

GEO. DRAPER & SONS, HOPEDALE, MASS.



CLEVELAND CITY FORGE & IRON CO. {Cleveland, OHIO. The Best & Cheapest Pressed Wrought Iron Turnbuckles

Shafting, Hangers and Pulleys { For Mills and Factories of every description.



Flour and Corn Mill Outfits Complete. { Highest Product

Over 1,000 of our Roller Mills in use.
Over 8,000 of our Portable Grist Mills in use.

Guaranteed.

We offer a Complete Mill and Sheller for \$115.00

Adapted to any kind of power. A boy can run and keep it in order.



NORDYKE & MARMON COMPANY, INDIANAPOLIS, IND.

Correspondence Solicited.

Write for pamphlet,
"Mills and Milling."



WE GUARANTEE
every foot sold to withstand constant service for such longer period as to render its actual cost much less in the end.

Every wind of the wire can be cut without Loosening or Uncolling.

Resistance to great pressure.
Unobstructed flow of water.
Increased flexibility and perfect protection are some of its advantages.

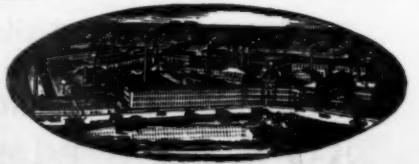
The making, vending or use of any Serviceable Armored Wire Bound Hose not of our Manufacture is an infringement on one or more of our Patents, and an violation will meet with instant prosecution. Brass Plates mark each coil and admonish Infringers, whether evil-minded or ignorant.

Waterbury Rubber Company, 49 Warren Street, New York.
Sole Manufacturers and Proprietors.

WASHBURN & MOEN MFG. CO., WORCESTER, MASS.

MAKERS OF IRON AND STEEL.

MANUFACTURERS OF



Iron, Steel and Copper Wire, Wire Rope, Barbed Wire.

Chicago Warehouse, 107 Lake St.
New York Warehouse, 16 Cliff St.

Manufacturers' Record.

PUBLISHED EVERY SATURDAY BY THE
MANUFACTURERS' RECORD CO.R. H. EDMONDS, EDITOR.
WM. H. EDMONDS, BUSINESS MANAGER.OFFICE,
COR. EXCHANGE PLACE AND COMMERCE STREET,
BALTIMORE.

BRANCH OFFICE, LOUISVILLE, KY.

NEW YORK OFFICE, 125 Nassau Street.

THOMAS P. GRASSTY, *Southern Staff Correspondent.*
Headquarters at FLORENCE, ALA.

SUBSCRIPTION \$4.00 A YEAR.

BALTIMORE, AUGUST 24, 1889

Why not subscribe for the MANUFACTURERS'
RECORD? Price \$4 per year or six months
for \$2.

THE Philadelphia Press keeps up its brilliant attempts to be witty by misrepresenting the South. It is a question whether stupidity or malice prompts its efforts in that direction, but we incline to the latter. In a late issue it said:

Georgia is making vigorous efforts this year to raise enough corn to supply her needs, something she has never yet succeeded in doing. Her chief difficulty heretofore has been that she converted too much of her corn into moonshine whiskey, and too little into griddle cakes and pone.

Georgia raised last year 28,069,000 bushels of corn, or an average of 10.8 bushels per capita, based on her population at the last census, while Pennsylvania raised 45,414,000 bushels, or 10.6 bushels per capita. In other words, in proportion to population, Georgia raised more corn than Pennsylvania. Georgia had at the time of the census \$106,000 investigated in the manufacture of liquors of all kinds, while Pennsylvania had \$14,270,000. Pennsylvania does not raise near enough corn to supply its own wants.

SOME time ago a Baltimorean invented a patent stopper, called a bottle seal, to take the place of corks and other patent stoppers. It looked like a very small thing, but it had merit; and instead of proving to be a small thing it has, like many other little things, proved to be a bonanza. It has already met with such a demand, and is paying such big dividends, that the company owning the patents has purchased the immense factory recently built by the Baxter Electric Motor Co., one of the largest buildings in the city, which probably cost at least \$75,000 to \$100,000 to erect. As small as it looks, a prominent business man, Mr. Samuel G. B. Cook, has gone to Europe to dispose of the patents for England and the Continent, and it is expected that the sale will yield a very large fortune to those interested. It is often the little things that yield the largest returns.

If our booming friends of Dade and Dade county want a paper that keeps up with the times of the South they should send for the Baltimore MANUFACTURERS' RECORD. It is a friend to every nook and corner of the South.—Dade County (Ga.) Times.

The Completion of the Cumberland Gap Tunnel.

The practical completion of the Cumberland Gap tunnel marks one of the most important events in the industrial and railroad history of the South—an event that is destined to have far greater influence upon the future of this whole section than its projectors even probably fully understood when they first undertook the enterprise. It opens up a gateway between the Northwest and the central South, and makes practicable the active development of one of the finest mineral and timber regions in the world. This great tunnel is the work of English capitalists acting through Mr. A. A. Arthur, of Knoxville, Tenn.

For years Cumberland Gap has been one of the noted points of the South, but no railroad had ever penetrated the vast region which is now brought so prominently before the public.

In this virgin country, where coal, minerals and timber are found in such abundance, and where the proximity of ores and coking coal indicate that it is possible to make iron at prices fully as low as the most favored point in Alabama, and where steel making ores are in easy access, there is now going on a transformation which is somewhat startling. The country is filled with prospectors looking for mineral and timber lands. A great industrial city is being laid out and pushed with astonishing vigor. American capital is rapidly following the lead of English money, and while Middlesborough, projected by Englishmen, promised to be an English town, the rush of American men and money there bids fair to evenly divide the honors between the two countries.

Here is a new town at the Kentucky side of this great tunnel, started in a county which for generations has been one of the most noted mountain counties of Kentucky, where there were fewer evidences of civilization even than in almost any other part of this country. This town is to revolutionize that section. It is hardly laid out yet, but it already has two banks, a newspaper, half a dozen churches projected or building, and enterprises of every character contracted for, from furnaces and steel rail mills to the minor industries, representing an aggregate capital of fully \$10,000,000.

In all America there is no finer country than that of Eastern Kentucky, Southwest Virginia and East Tennessee, and these three States meet at this point, the stone which marks their dividing lines being directly over this tunnel. It is a country of splendid climate, of almost boundless mineral and timber wealth, and offers attractions as a place of residence as well as for industrial enterprises rarely equalled. The construction of Cumberland Gap throws this great country open to the world.

Subscribe to the MANUFACTURERS' RECORD.

Mutual Insurance for Cotton Mills.

The co-operation of mill owners for insurance purposes has proved a great success, and several lines of manufactures now have their own companies. These companies have served a two-fold purpose. They have insured the factories, and they have demanded precaution against fire, hence have assured greater protection to the lives of the operatives. Or, to put it in other words, these mutual companies have reduced the insurance business to a science by taking only risks that are satisfactory. If a mill owner or corporation seeks admission into one of these companies, the mill is examined to see if it is well arranged to prevent conflagration, and if it is not, it must be so arranged before it can be accepted.

Mr. Edward Atkinson, who is president of several of these mutual companies, relates an incident to illustrate the policy of mutual companies. The owner of a jute factory applied for mutual insurance. His factory was a stone building, with bare walls inside and with the ceilings finely sheathed. Sixty feet away was a flax factory, and twice as far were locomotive works. These works also applied for insurance. They regarded themselves as a first-class risk, but were rejected owing to the faulty construction of their building. Among the things necessary for the jute factory to do to secure insurance was the removal of the sheathing, and it was removed under protest. In the interspace were several tons of very inflammable lint. Within a year the locomotive works, which the owners regarded as so good a risk that they could not burn, were burned, and the flax factory went with them; but the jute factory, which had taken scientific precautions against fire, was saved in the face of the fire fanned by the gale of wind.

This incident goes to show that, where the necessary precautions are taken, there is a fighting chance in case of fire. By the judicious outlay of a few dollars the jute mill was saved. Upon such a basis as this, factory mutuals are enabled to provide insurance at very small cost. There may be some expense at the outset to make a mill already built suit the stringent requirements, but this expense is soon more than made up by the reduced cost of insurance. In 1885 insurance in mutual companies cost 15-1-10 cents per hundred dollars, while factories insured in old companies paid \$1.25 on the hundred dollars. In that one year alone the members of the mutual companies saved themselves \$3,000,000 by adopting the mutual plan instead of relying upon the old-line companies.

In North Carolina, South Carolina, Georgia, Alabama and Tennessee are 280 cotton mills. Suppose these mills were to organize for mutual insurance. It is safe to say that they represent at least \$42,000,000,

which is an average of \$150,000 to a mill. Let the aggregate insurance be \$40,000,000. With good management the insurance would not cost much, if any, more than in other parts of the country, but call it 20 cents; then these mill owners would pay \$80,000 yearly for their insurance. But if they were insured in old companies at \$1.25, their premiums would amount to \$500,000.

Many Southern mills are already insured in mutual companies, greatly to their benefit, but we believe there is room for a mutual company made up entirely of Southern mills. Many mills now insured in old companies would save largely in premiums paid, the mills would be more scientifically arranged to avoid fire, and there would be a bond of sympathy among mill owners that does not now exist.

IN 1880 Dallas county, Texas, according to the census reports, had \$450,725 invested in manufactures, the total value of the product being \$1,459,362, and the hands employed numbered 527. At the present time this county has \$2,682,800 invested in manufacturing interests, furnishing employment to 2,019 hands, and yielding \$3,723,300 in products, not counting half a dozen or so factories that have commenced work since the county assessor undertook the compilation of these statistics. Dallas has been more noted for the growth of its trade interests than for its increase in manufactures, and yet it has quadrupled the number of factory hands, more than quintupled the capital invested, and nearly trebled the value of the products of its factories since 1880. Facts like these give some idea of the magnitude of the general industrial advance of the South in the last eight or nine years. Now that Dallas, and the same is true of all Texas, is turning its attention more directly to its manufacturing interests, a still more rapid growth may be looked for.

A 3,000-spindle cotton mill is to be erected in the city of Bessemer, Ala. Ten years ago that place did not have 500 population.—American Machinist.

The cotton mill is to have 20,000 spindles instead of 2,000; and as to Bessemer's having 500 population ten years ago, why less than five years ago the place where Bessemer now stands was a forest. It doesn't take ten, or even five, years to lay out and build a prosperous town in the South in these days.

THE Morris Mining Co., of Birmingham, has signed a contract with the Louisville & Nashville Railroad for the shipment of 1,000,000 tons of ore during the coming year. The entire cotton crop of the South furnishes about 1,500,000 to 1,700,000 tons of freight a year, or in the number of tons only about 50 per cent. more than this one iron ore mine. This is what the development of the iron interests of the South means for the railroad of that section.

MANUFACTURERS' RECORD.

An Important Railroad.

A dispatch from Staunton, Va., says:

Prof. R. N. Poole, president of the Staunton & West Augusta Railroad, has Saturday closed the contract for the construction of the first link in the Staunton & West Augusta Railroad, twenty five miles in length, from Staunton to the anthracite coal and iron and timber fields of the North mountain. Messrs. Keating Bros. & Co. take the contract. The officers are R. N. Poole, president; J. N. Carroll, secretary, and W. P. Tams, cashier of the Augusta National Bank, Staunton, treasurer.

The building of this railroad means, among other things, the opening up of a great anthracite coal field in Virginia. Notwithstanding the fact that many geologists have seriously questioned the possibility of finding large bodies of anthracite coal in Virginia, the MANUFACTURERS' RECORD is confident that the coal is there, and that it will prove a source of great wealth to that State.

Prof. Poole, the president of the road, is one of the most tireless workers in the organization of new industrial enterprises for the development of the State which Virginia has ever had. He is now pushing many projects in addition to this railroad that promise to draw millions of dollars into the State. The MANUFACTURERS' RECORD can only hope that his health and strength may continue sufficient to enable him to carry his great plans to a full consummation, as they will prove of incalculable value to the Old Dominion.

PENSACOLA, FLA., wants a furniture factory, and is so anxious for it that two leading furniture dealers have offered to take \$5,000 apiece in stock, provided other citizens subscribe \$5,000 more, and experienced men can be induced to raise a like amount, \$15,000, and manage the business. The city is in the neighborhood of abundant supplies of hard and soft wood, and the Louisville & Nashville Railroad agrees to give the factory the benefit of its most reasonable rates. The Daily News has worked hard to encourage local enterprise, and with a factory so near its grasp, it is sincerely to be hoped that success will be attained.

IT is a satisfaction to the MANUFACTURERS' RECORD to report that a soap factory is to be built at Charleston, S. C. About \$10,000 will be invested in the enterprise. There is no reason at all why such a factory should not pay handsomely, being situated in the cotton-seed oil and rosin country. In a recent issue we strongly urged the establishing of soap factories in the South, because they are small industries and require only a limited outlay of cash to establish them. We shall hope that the example of Charleston will be followed by at least a dozen other enterprising towns in the South before the new year.

A Small but Important Industry.

In a recent issue of the MANUFACTURERS' RECORD we called attention to soap making as a small industry that could be established to great advantage and at very little outlay of money in nearly every town of the South, and a large amount of money thus kept at home which now goes to New York, Chicago and other Northern cities.

To day we would call attention to butter and cheese making.

The other day a well-known physician and surgeon, who spent three years in the lower Mississippi region during the war in hospital service, and who wrecked his health there, told to the editor of this paper of a little experience of his with a creamery. "I was obliged to seek perfect quiet," said he, "so I retired to a little country town in the hills of New Hampshire. As I became acquainted with the various farmers, I found that they made some butter, but most of it of indifferent quality, and used quantities of nice milk to feed swine; so just to occupy my mind I agitated the creamery question, and to encourage the movement contributed \$500. The farmers one after another became interested. We hired an old abandoned mill, fixed it up at little cost, and soon had our creamery running. For the first year we had hard sledding, but the whole community soon became interested in this, their only industry, and patronized it. As a result, we run at our utmost capacity all the time now, and sell all our products in Boston at fancy prices. And this little investment which I made simply to help a good work along is now paying a very handsome dividend."

This same experience could be repeated all over the South. The sweet grasses of the hillsides make the finest of butter, and with the longer season in the South, there would not be the great expense of stall feeding the cattle for many months as in this little New Hampshire hamlet. Practical experience demonstrates the fact that the best of dairy products can be made in the South. All that is necessary is a little energy to perfect the organization and interest all the farmers in the locality, so that the creamery shall be a co-operative one.

Butter can be made much better and much cheaper in this way than when each farmer attempts to make it at home and at the same time keep up with his other work. The outfit for such an industry is inexpensive. A great convenience to such an establishment is a good spring or stream which can furnish power, and also be relied upon for cooling the milk and otherwise assisting in the manipulation of the products. Any live farmers' alliance in the South has the resources at hand to build up a creamery, and thus add to the income of each person interested.

Subscribe to the MANUFACTURERS' RECORD.

Washington the Choice.

Governors, Congressmen and Mayors Enthusiastic for Washington as the Place for the Exposition of 1892.

Thirty Votes for Washington and One Each for New York, St. Louis and Chicago.

SOME STIRRING LETTERS FROM THE SOUTH.

The MANUFACTURERS' RECORD, desiring to learn the sentiment of the people of the South as to the most desirable place for holding the exposition of 1892, recently wrote to the governors of the Southern States, to a number of Southern Congressmen, and to the mayors of the leading cities of the South, asking for their views upon the subject. The letters which have so far been received, and all of which we publish to-day, are almost unanimously for Washington. Thirty strongly urge the national capital as first and foremost above all cities the place for the exposition, one favors New York, one Chicago, and one St. Louis, with Washington as the second choice. It is remarkable that the sentiment of the South as voiced by these letters should be so overwhelmingly in favor of any one place, as it is a rare thing to find such unanimity of views upon any subject. This grand event, which is to surpass all other expositions and which is to display to the nations of the world the magnitude and grandeur of the greatest republic on earth, will mark a new era in the world's history. "It is," said the resolutions recently adopted by the mass-meeting in Baltimore, "beyond the magnitude and dignity of a private corporation or any individual city, and Washington, which is commercially neutral ground, the city of the nation, and of all the States, and the capital of the oldest and foremost American nation, is the only proper site for the commemoration of this great historical event."

We commend to our readers the following letters:

A STRONG LETTER FROM GOV. TAYLOR IN FAVOR OF WASHINGTON.
EXECUTIVE OFFICE,

NASHVILLE, TENN., August 17, 1889.

Editor Manufacturers' Record:

To hold the exposition of 1892 at Washington would exhibit to the assembled world the machinery of the greatest republic in actual operation—a colossal exhibition within itself. If it is held elsewhere, but a part of the interesting and valuable collection that make up the departments and government institutions can be shown, and that at enormous expense, in inactive situation and broken relation. We want to show our government in action, as well as the resources and inventions, and riches of the general country, and the latter could as easily be brought there, and more advan-

tageously exhibited in conjunction with the government exhibit. Besides, it is centrally situated, and its selection harmonizes all claims and relieves the matter at once of all sectional prejudice, giving equal advantage to all. Paramount to all, if the interest of the South is to be considered, there is no other place mentioned or possible where she would have equal footing and advantage.

ROBT. L. TAYLOR, Governor.

CONGRESSMAN WHEELER FAVORS WASHINGTON

WHEELER, ALA., August 16, 1889.

Editor Manufacturers' Record:

Your letter received. The natural advantages of the South must necessarily in a very few years make it a great manufacturing center. There is no place on earth where cotton and iron goods can be manufactured as cheaply as in the Southern States. Our fertile soil and delightful climate will also be very attractive to agriculturists, and our unlimited supply of superior timber will go very far to draw other industries to our country. The sooner these facts are made known to the world the quicker will this desired object be consummated. If the exposition of 1892 be held in Washington it will aid very much in informing the world regarding our resources, and I am very much inclined to favor that locality.

JOB. WHEELER

NATIONAL PRIDE AND SECTIONAL UNITY SUGGEST WASHINGTON AS THE PLACE.

MAYOR'S OFFICE,

GREENSBORO, N. C., August 17, 1889.

Editor Manufacturers' Record:

In reply to your letter of August 14 desiring an expression of opinion as to the proper place for holding the exposition of 1892, Washington or New York? I will say my individual choice is Washington, and I believe it is the choice of our people; for that convenience, national pride, sectional unity and good-will, and propriety in every view of the matter suggest Washington, the capital of this, our great and common country, as the proper place. JAS. W. FORBES, Mayor.

GOV. JACKSON EMPHATIC FOR WASHINGTON.

ANNAPOLIS, MD., August 17, 1889.

Editor Manufacturers' Record:

I have no time to reply in full, as I must take train for New York in a few minutes.

In a word, I will say that I think the exposition should take place; it would be a sad mistake should it not. Washington is the place; indeed, I do not know a single practical reason for any other place, and it should be under the management and control of the nation. Washington is neutral ground. A thousand reasons in favor of Washington for one against. Can't say more.

E. E. JACKSON.

THE PREFERENTIAL PLACE IS WASHINGTON.

OFFICE OF MAYOR,

PETERSBURG, VA., August 15, 1889.

Editor Manufacturers' Record:

Washington, D. C., is the preferential place of all others to hold the exposition of 1892, for many and obvious reasons.

It is the capital of the country, and is the most attractive of all our cities. It is equally accessible, if not more so from all parts of the country than New York, and above all, Washington is regarded as the common property of all the people, and the people have a just pride in this their own city. CHARLES F. COLLIER, Mayor.

WASHINGTON BEYOND ALL QUESTION.

MAYOR'S OFFICE,

FLORENCE, ALA., August 17, 1889.

Editor Manufacturers' Record:

Washington city is beyond all question not only the proper place for the exposition of 1892 to be held, but the choice of our people. ROBERT ANDREWS, Mayor.

WASHINGTON THE MOST SUITABLE PLACE.

HAGERSTOWN, Md., Aug. 16, 1889.

Editor Manufacturers' Record:

Yours of the 14th at hand. In reply say that I think Washington is by far more central and suitable place for the exposition. LEWIS DELAMARTE, Mayor.

WASHINGTON THE ONLY PROPER PLACE.

MAYOR'S OFFICE,

FREDERICKSBURG, Va., Aug. 17, 1889.

Editor Manufacturers' Record:

Washington, the capital of the United States, is the only proper place for holding the exposition of 1892, and there should not be a dissenting voice, as thousands would go there to see the city, and the Washington Monument and Mount Vernon nearby, in addition to the exposition, who could never be induced to go elsewhere, it being easy of access from all quarters and near the dividing line of the Northern and Southern sections of our country. No other place in the United States could be named that would afford as many attractions, or would be as suitable for such an exhibition, and no other place should be thought of.

A. P. ROWE, Mayor.

SUCCESS MORE CERTAINLY ASSURED AT WASHINGTON THAN ELSEWHERE.

MAYOR'S OFFICE,

ROME, Ga., August 15, 1889.

Editor Manufacturers' Record:

Your letter to hand and contents considered. It will be eminently proper to have this exposition of 1892 at Washington. D. C. Washington is the national capital; it is common ground to every section of the country; the national pride will be more completely aroused, and the success of the exposition more certainly assured.

W. F. AYER, Mayor.

WASHINGTON, THE GATEWAY BETWEEN THE NORTH AND SOUTH, IS THE PLACE.

MUNICIPALITY OF GADSDEN,

GADSDEN, ALA., August 16, 1889.

Editor Manufacturers' Record:

I wish to herewith acknowledge receipt of your esteemed favor of 14th inst., in which you request an expression from me as to where the exposition of 1892 should be held. When we remember that Washington is the nation's capital, the gateway between the North and South, and would become the meeting place of from 8,000,000 to 10,000,000 people during the exposition from all sections of the country, the Northern and Eastern capitalist, thus coming in personal contact with the people of the South, could be induced to investigate for a few days the attractions and resources of this section, and no doubt many would conclude to visit the "New South" before they returned. So far as the South is concerned and the benefits to be derived therefrom, which, in my opinion, are incalculable, I would unhesitatingly say the exposition should be held in Washington. I believe the exposition would be a grander success if held there than almost any other city that might be selected. Being centrally located and easy of access from all parts of the Union, and the capital of the greatest government on earth, thousands of our people from all points of the compass would be induced to visit the exposition who otherwise would not attend.

JOHN P. RALLS, JR., Mayor.

WASHINGTON THE CHOICE OF FROSTBURG.

FROSTBURG, Md., August 16, 1889.

Editor Manufacturers' Record:

Our people favor holding exposition of 1892 in Washington, as being more central, and as the facilities for reaching there is equal to that of New York, especially for a large majority of the people of the United States. We believe the people of the South will take a pride and interest in an exposition held in Washington, the capital of the nation, that they would not take if held in any other place.

W. M. THOMAS, Mayor.

SHOULD BE HELD AT THE CAPITAL OF THE GREATEST AND MOST GLORIOUS REPUBLIC THE WORLD HAS EVER KNOWN.

OFFICE OF THE MAYOR,
PORTSMOUTH, VA., August 15, 1889.

Editor Manufacturers' Record:

I regard Washington as by far the most eligibly situated center for holding the great exposition in 1892.

It is easily approached, and the natural accommodations are very superior. It will be a great thing to say that here, at the capital of the greatest and most glorious republic that the world has ever known, are met together men of all climes, who have never met before, in earnest endeavor to further the advancement of civilization. Let us have it at Washington by all means, for there are the corner-stone and pillars of our great government; and by tarrying there a while the Greek, the Turk, and many others from far-away climes, may learn a lesson that will go far to christianize the world, and contribute largely to that love of liberty without which true happiness is unknown.

J. THOMPSON BAIRD, Mayor.

ONE VOTE FOR NEW YORK FROM CONGRESSMAN VENABLE.

PETERSBURG, VA., Aug. 16, 1889.

Editor Manufacturers' Record:

Your favor of 14th to hand. I would be very glad to see the exposition of 1892 held in Washington or even farther South, if Washington or any Southern city were equal to so great an undertaking. New York is by far the best place for it. I believe that it can raise more money for the exposition than any other city in the country.

It can best accommodate the crowd that will attend. Its railroad facilities are unsurpassed by those of any place in America, and it has many lines of steamers running to Europe. New York is in all respects the great city of America, and the location of the exposition elsewhere would be soon recognized as a mistake and be regretted.

EDW. C. VENABLE.

WASHINGTON, BECAUSE IT IS THE NATION'S CAPITAL.

CUMBERLAND, Md., Aug. 15, 1889.

Editor Manufacturers' Record:

I think the exposition should be held at Washington, because it is the nation's capital. J. W. SHUCK, Mayor.

HON. JOHN O. PENDLETON CAN'T DECIDE BETWEEN NEW YORK AND WASHINGTON.

WHEELING, W. Va., August 15, 1889.

Editor Manufacturers' Record:

I have so far given the matter but little thought. As between New York and Washington it is difficult to decide. Both possess peculiar advantages. New York has hotel capacity, is on the sea coast, and has the wealth to make the exposition a success without government aid. Washington is more central, more beautiful, and is the national capital. When we come to the bridge we shall have plenty of time to walk over.

JOHN O. PENDLETON.

DECIDEDLY FAVORS WASHINGTON.

MAYOR'S OFFICE,

CHARLESTON, W. Va., August 15, 1889.

Editor Manufacturers' Record:

Your letter touching the subject of the place at which the exposition of 1892 should be held was this day duly received in response thereto permit me to say that I am decidedly of opinion that the city of Washington is the point at which the exposition should be held.

JOSEPH L. FRY.

CHICAGO HAS ONE VOTE.

OFFICE OF C. W. SEABRIGHT,

Mayor of the city of Wheeling.

WHEELING, W. Va., August 15, 1889.

Editor Manufacturers' Record:

All I have to say is, my choice is Chicago as the best place in the United States.

C. W. SEABRIGHT, Mayor.

ALABAMA'S GOVERNOR VOTES FOR WASHINGTON.

STATE OF ALABAMA,

EXECUTIVE DEPARTMENT.

OFFICE OF THE GOVERNOR,

MONTGOMERY, August 16, 1889.

Editor Manufacturers' Record:

Your favor of August 14th reaches here in the Governor's absence, but I venture to call your attention to his letter recently published in the New York Independent, in which he declares himself in favor of Washington as the fit place for holding the world's exposition in 1892.

J. K. JACKSON, Private Secretary.

AS A NATIONAL EXPOSITION IT SHOULD BE AT THE NATION'S CAPITAL.

FAYETTEVILLE, N. C., Aug. 16, 1889.

Editor Manufacturers' Record:

Replying to your letter of the 14th as to whether the exposition of 1892 should be at New York or Washington, I would say, considering the United States as a nation, it is to be a national exposition, and should, if practicable, be at the nation's capital. The government will contribute largely, and the appropriations, if expended at the capital, can be so used as to secure permanent buildings that may be dedicated or used for the encouragement of some of our industries or arts. Washington is more central than New York. For these reasons and many others that might be mentioned I would say Washington city. N. W. RAY,

Chairman Commissioners of Fayetteville.

WASHINGTON PREFERABLE.

MAYOR'S OFFICE,

OWENSBORO, KY., August 16, 1889.

Editor Manufacturers' Record:

In reply to yours I would say that Washington would be preferable from a purely national standpoint for the holding of the great exposition in 1892.

JO LEE, Mayor.

RICHMOND HEARTILY FAVORS WASHINGTON.

MAYOR'S OFFICE,

RICHMOND, Va., August 16, 1889.

Editor Manufacturers' Record:

I am heartily in favor of Washington as the place for the exposition of 1892.

J. TAYLOR ELLYSON.

STRONGLY FAVORS WASHINGTON—THE CAPITAL OF THE GREATEST NATION ON EARTH.

MAYOR'S OFFICE,

CHARLOTTE, N. C., August 16, 1889.

Editor Manufacturers' Record:

Yours of 14th inst. received. The sentiment of the people of Charlotte and this section of the country is strongly in favor of Washington as the place for holding the exposition. Washington is preferred because of its accessibility, railroad accommodations, wide streets, wealth of attractions, hotel and boarding-house advantages and resources for the entertainment of great throngs of sightseers. It is the capital of the nation, the greatest nation on earth; and that is another potent reason why the national exposition should be held there.

F. B. McDOWELL, Mayor.

WASHINGTON THE PLACE OF ALL OTHERS.

MAYOR'S OFFICE,

ALEXANDRIA, Va., August 15, 1889.

Editor Manufacturers' Record:

Yours desiring my views on the place where the exposition of 1892 should be held, has been received. I have no hesitation in saying that I consider Washington the place of all others to be selected. As the capital of the greatest nation on earth, it alone possesses many attractions for the millions who will visit the exposition. Its propinquity to Mt. Vernon, the resting place of the remains of the father of his country, and to Alexandria, containing the church where he worshiped, offer additional inducements for its selection.

E. E. DOWNSHAM.

THE NATIONAL CAPITAL PRE-EMINENTLY THE MOST APPROPRIATE PLACE.

MAYOR'S OFFICE,

WINCHESTER, Va., Aug. 15, 1889.

Editor Manufacturers' Record:

Upon the subject of the place where the great exposition of 1892 is to be held, I have no hesitation in asserting that of all the cities in the Union, the national capital is pre-eminently the most appropriate, and I may say the most attractive place. That city will doubtless soon have attained the distinction of being the most beautiful city in the world. There should, at least, be no sectionalism exhibited or felt upon this great occasion, but every American citizen should feel proud to see this exposition held in the capital city, and also that we have a city which reflects so much credit upon our people. There is no city in America where visitors feel so much at home as in Washington, and our people feel an especial interest in having this city selected on account of its proximity to ourselves; but this is not the controlling motive. We wish the world to see and visit our beautiful capital and enjoy her ways, and from thence they may go whither pleasure or business may call them. We vote for Washington, and feel satisfied that its selection will occasion no regret.

WM. M. ATKINSON,
Mayor of Winchester.

GREATLY PREFERS WASHINGTON, AND ASKS THE MANUFACTURERS' RECORD'S INFLUENCE IN FAVOR OF IT.

WINSTON, N. C., August 15, 1889.

Editor Manufacturers' Record:

I very greatly prefer Washington to New York for the contemplated exposition, and urge you to use all your influence to bring about this result.

Acting Mayor.

WASHINGTON THE CHOICE OF MARTINSBURG.

MAYOR'S OFFICE,

MARTINSBURG, W. Va., August 15, 1889.

Editor Manufacturers' Record:

Your favor of the 14th to hand. Would say in reply that Washington is my choice, as well as that of our citizens.

CHAS O. LAMBERT, Mayor.

THE NATION'S CAPITAL.

OFFICE OF

MAYOR OF THE CITY OF PINE BLUFF,

PINE BLUFF, ARK., August 17, 1889.

Editor Manufacturers' Record:

Replying to your favor of the 14th inst., will say our people would prefer a Western city, St. Louis first. Believing that city will be overshadowed by both New York and Washington, I would give preference to the nation's capital. As between the two cities, Washington, as the capital of the nation, should have the preference. The proximity of many cities within easy reach by rail will give accommodations to 10,000,000 visitors. By 1892 the development of the resources of the South will have reached a point beyond parallel in the history of nations. The exposition will be the opportunity; thousands will pass through the gateway at Washington to view and appreciate the world's wonder—the resources of the South.

J. W. BOCAJ, Mayor.

WASHINGTON, THE NATION'S "MEETING PLACE," THE MOST DESIRABLE.

MAYOR'S OFFICE,

HUNTSVILLE, ALA., August 17, 1889.

Editor Manufacturers' Record:

Your letter concerning the location of the exposition of 1892 is at hand and noted. What financial considerations may enter into the location selected I do not know, but aside from this, Washington is surely more desirable. The exposition is a national affair, and Washington is the capital and the nation's "meeting place" for all purposes involving a national sentiment. JOHN MURPHY, Mayor.

"CAPITAL OF THE GREATEST COUNTRY THE SUN EVER SHONE ON" IS THE PLACE.

OFFICE OF MAYOR,
PARIS, KY., August 16, 1889.

Editor Manufacturers' Record:

Noting yours of the 14th inst., it is certainly true there is nothing great nowadays in the way of shows and congresses that is not either national or international. In locating the exposition of 1892, the main point is the accomplishment of the greatest good to the greatest number of people (our own people, of course). Some things, some names, some places, there are which by a common instinct are held sacred. Washington, the synonym of patriotism; Washington, the scene of heroic deeds, the precinct of patriotic graves and the home of sublime thoughts, the school of statesmanship, the palladium of free government; Washington, the capital of the greatest country God's sun ever shone on; the nation's pride. The interests, alike East, West, North and South, center at the national capital; here all barriers of sectional rivalries and local ambitions merge into the common weal. By all means locate the exposition of 1892 at Washington city, and then—not New York, Baltimore or Chicago; but the people of the United States will win and wear the credit and glory that crown its success.

W. P. CHAMBERS, Mayor.

ST. LOUIS FIRST CHOICE. WASHINGTON
SECOND.

STATE OF ARKANSAS.

EXECUTIVE OFFICE,

LITTLE ROCK, August 17, 1889.

Editor Manufacturers' Record:

Replying to yours of 14th inst., I am directed by Governor Eagle to say that he prefers St. Louis as the place for holding the exposition of 1892, it being a Western city, near the geographical center as well as the center of population, and visitors in going and returning would see more of this country, and particularly of the great West and its wonderful resources and possibilities. If, however, the exposition is to go to the East, he prefers Washington city, it being the nation's capital.

JNO. C ENGLAND, Private Secretary.

EARNESTLY FOR WASHINGTON.

ATLANTIC CITY, N. J., Aug. 19, 1889.

Editor Manufacturers' Record:

Owing to my absence from Baltimore, your letter has just reached me. I am earnestly in favor of Washington, D. C., as the place of holding the exposition of 1892, and believe it should be under joint Federal and State control.

H. WELLES RUSK, M. C. 3d Dist., Md.

HON. HERMAN STUMP FAVORS WASH-
INGTON

BEL AIR, MD., August 19, 1889.

Editor Manufacturers' Record:

Yours of the 14th inst. just handed me. I have only time to say that I prefer Washington. Should the government be called upon to pay all expenses in case Washington is selected my views might undergo a change.

HERMAN STUMP.

FREDERICK VOTES FOR WASHINGTON.

FREDERICK, MD., August 16, 1889.

Editor Manufacturers' Record:

I am in receipt of your letter of 14th. I think Washington would be the proper place for the exposition, it being the nearest point between the North and South.

LOUIS H. DOLL, Mayor.

THE Doll's Run, W. Va., oil field is experiencing a greater boom than ever, and the prospects for an exceedingly productive territory were never so bright. Seventy wells are now going down, and several will get the sand within the next forty-eight hours. One 50-barrel well and one of 70 barrels came in Saturday. A party of Pennsylvania capitalists have just returned from a tour of the field and they are enthusiastic.

CUMBERLAND GAP.

A New Era in the South's Industrial History.

The Great Tunnel which Opens up an El Dorado Finished.

HOW AMERICAN HISTORY MIGHT HAVE BEEN CHANGED.

HEADQUARTERS MANUFACTURERS' RECORD'S EXPLORING EXPEDITION.

CUMBERLAND GAP, Aug 10, 1889.

When we were at the Breaks of the Big Sandy we saw the extreme Eastern presentation of the Elkhorn coking coal, as hath been written. Now we are nearly at the Western end of the horizon, and in sight of the famous gap called Cumberland. Hon. John R. Procter, State Geologist, and Col. R. Stoddard Johnston, had promised to join the party at Pineville, and in their company I expected to make a preliminary run over the region about Cumberland Gap, before getting down to the solid and extensive business necessary to a study and report of this most remarkable and important region. The whole industrial future of the States of Kentucky and Tennessee is vitally mixed up with the resources and developments of the country lying between Big Stone Gap and Big Creek Gap, and these gateways, with Cumberland Gap added, are the principal strategic points in the theatre of the industrial movement already begun and gathering force and volume every day.

Historically by far the most noted and interesting point is Cumberland Gap. Probably Daniel Boone was the first white man to find his way into Kentucky by this route. He blazed a trail to it through Virginia, and it was called the Wilderness trail. Then a road was made over the same route and called the Wilderness road. This road was afterward extended far up into Kentucky and South through Tennessee, and, until the Civil War, it was the principal avenue of interior trade and travel from Savannah to the Ohio river. The history of the nation is involved in the history of Cumberland Gap and the Wilderness road. First, a large part of the early settlement of Kentucky was effected on this line. Next the inland commerce of a number of Southern States followed it. Then along came the War and Cumberland Gap became a military point of vast importance. The tremendous cliffs about the pass were fortified, and the forest growth literally cleaned off the mountain sides, that there should not be any cover for an enemy contemplating an assault.

It really requires a view from the "Pinnacle" of the mountain which dominates the Gap on the Eastern side, to appreciate what a place this is! I know that comparisons are odious and it is not worth while to deprecate one thing in order to magnify another. But comparatively few people have been on the mountains at Cumberland Gap, and pretty much everybody has climbed Pike's Peak, one time or another. Well, the people who have been on Pike's Peak, Mont Blanc, Ben Nevis and so on will have some idea of what a

scene is opened to the startled vision from the summit of the "Pinnacle" rocks. None of the better known eminences from which globe trotters are wont to look down upon the earth's surface exceed this point in respect of the beauty or grandeur of the view.

Readers who will take the trouble to look over a map of the United States, and note the manifest importance of Cumberland Gap, as a means of communication between the Southern and Northern, especially the Northwestern States, will also wonder why a line of railway has not been long ago constructed through the pass. It is not to be supposed that the same idea never occurred to our forebears. As a matter of fact the matter did occur vividly to the progressive men of the South half a century ago, at a time when American railway enterprise was in its infancy. As early as 1835, or thereabouts—never mind the exact date—when the railway idea was prominent in Southern minds and the State of Georgia was formulating the scheme which led to the foundation of the Georgia Railroad and Banking Company—a scheme, by the way, that paid from the start, lifted Georgia's debt and made the Commonwealth solid—it was intended to have similar State action in Tennessee and Kentucky and to extend the Georgia idea so as to cover a line of railway all the way, via Cumberland Gap, from Savannah to the Ohio river. A bill was prepared and presented before the Kentucky legislature, and it was promoted and supported by a large contingent of Kentucky's ablest sons. I am told that Henry Clay was heartily in favor of the project and that he urged his friends to further the object. Adherents of the measure were confident when the bill approached its final stage. But great Tom Marshall, then a member of the legislature, was bitterly opposed and worked night and day to defeat it. Memminger, of South Carolina, came up and worked before the committee and in the lobby to secure favorable action, and all seemed promising and even safe until the counting of the noses on the final vote, when the measure was killed by the single vote of Tom Marshall. The railway through Cumberland Gap was not to be until long after. I was present on the other side of the gap when the headings of the tunnel through the Cumberland Mountain met, and the road from the sea to the Ohio by this route was rendered practicable. This was only last Thursday evening at 6 o'clock.

Fancy now how American history might have been changed if the old scheme had worked! With railway communication between the interior South and North, there would have been intimate trade and communication; the people of the separated sections would have grown acquainted and become, perhaps, homogeneous. Differences that were finally settled by blood, might have been arranged through peaceable convention and the horrors of fratricidal war averted. It was not to be, of course, and the milk has been spilled too long to make a fuss about it now. The railway is through at last and there are great movements impending there afoot. Before the twentieth of August the Louisville & Nashville will be running into and through Middletown to the northern end of the tunnel, there to connect with the Knoxville & Cumberland Gap Railway and the connection will be complete. The link thus formed will be of the greatest importance to the two rich mineral regions north and south of the Cumberland mountains; regions of such surpassing interest that the details of their conditions and phenomena must of necessity be taken up with care and deliberation.

Since we have already started that consideration it is probably best to continue with the subject of the coking coals of the

region! All the way from the mouth of Elkhorn Creek, following the line of counties along the northern side of the Cumberland uplift, the Elkhorn Coking horizon is found reliably and persistently present. Its area is over 1,600 square miles as far as it has been defined by the Geological Survey. In a previous paper a letter was written about it. It occurs in seams of from four feet to seven, eight and nine feet, and, in places, even more. Wherever identified it bears the same character, and the numerous analyses of it made from scattered openings throughout the field regularly show it to be the peer if not the superior of the standard Connellsville product. Let us regard the record, the examples used being all from Bell County, where we are making headquarters for the present:

COMPOSITION OF ELKHORN COKE—BELL COUNTY.			
No.	No.	No.	No.
2,590.	2,599.	2,601.	2,602.
Moisture expelled at red heat ...	0.90	0.80	0.70
Carbon in coke ...	95.80	94.20	92.70
Ash.....	4.	5.60	6.60
Sulphur.....	1.710	0.601	0.450
Color of ash...;	dark brown.	brown.	brownish gray.
Hours of coking...	48.	42.	72.

There are many more analyses extant which any one interested may have by writing to the MANUFACTURERS' RECORD or to the Kentucky Geological Survey, Frankfort, Ky. They all give the evidence that the Elkhorn coking coal shows from 89 to nearly 96 per cent of carbon in the coke, is low in ash and sulphur, and generally is as excellent as the most particular foundryman or furnace manager could wish. It seems safe to estimate that a ton of this coke will make a ton of pig iron, calculating on the basis of such ores as are used in the Birmingham district. The only thing needed to make the vast resource at once available is ore. Where is this ore to come from; how far must it, or the coke, travel, and what will be its character? These are questions which it would be easy enough to answer from the printed statements on the subject, that have been kindly forwarded to us by the corporations and individuals interested in the district; and it should be remarked that the same appear to be conservative and fair; but it will take some time to acquire the personal knowledge on the subject necessary to such an independent judgment and report as MANUFACTURERS' RECORD readers expect and will have.

That there are ore deposits in Kentucky which may prove of great value in connection with the Elkhorn coke is probable, but opinion on this point must wait upon the examinations of the coming weeks. There is much to learn as well concerning the ores on the Tennessee side. A number of openings are being made near Dillwyn Springs, south of the Cumberland Gap, where there is a well-defined lead of the Clinton red fossiliferous ore, of Oriskany ores and perhaps still another horizon. There are large prospects in Elk Valley, south of Jellico, and several good showings near Pineville. All these need investigation, which cannot be accomplished hurriedly; and in the meantime we must have patience, see all we can and keep our powder as dry as the perspiration from 20 miles a day on hard trotting horses will allow.

GOLDSMITH BERNARD WEST.

MANAGERS of mills, factories, furnaces, mines, etc., and parties starting manufacturing enterprises, and needing machinery or supplies of any kind, will find it profitable to consult the advertising columns of the MANUFACTURERS' RECORD. Its pages contain names of the best houses in the country among manufacturers of and dealers in machinery and mill supplies.

"Cumberland Mineral District."

The Manufacturers' Record's Exploring Party Still Studying the Resources of Eastern Kentucky.

A RICH MINERAL AND TIMBER COUNTRY.

HEADQUARTERS

MANUFACTURERS' RECORD'S EXPLORING EXPEDITION.

CUMBERLAND GAP, Aug. 15, 1889

When the capitalist, or the tourist, wants to take a look at the wonders of the region around Cumberland Gap his most brilliant scheme is to pack himself into a Pullman and journey to the Kentucky metropolis of Louisville. This is the outfitting point for that neck of woods. The outfit needed is simple; it will suggest itself when it is understood that the district to be exploited is all "prohibition," and that the horses which one may expect to be called upon to ride, are not always the "downy bed of ease," ambling palfrey breed of animals that medieval bishops are reported to have bestrode. Thus it will be seen that if one wishes to be insured against snake bites he should fill his half-pint flask at Louisville, and, farther, provide himself with a stout pair of breeches. The enterprise of the Louisville & Nashville Railway Co., and the excellent hotels at Pineville and Dillwyn Springs on the Tennessee side of the Gap, will furnish all other necessities.

Having taken in the sights around Louisville, and they are many and interesting, the proper caper is to get up early and board the day train for Pineville, via the Knoxville division of the Louisville & Nashville. A good deal of Kentucky will be seen before night, and much of it about the poorest that this remarkably rich Commonwealth has to show. However, it is worth seeing, and some of it notable. You go through what would be locally described as a "right smart" of counties: Jefferson, of which Louisville is the seat; Bullitt, Nelson, famous for its distilleries, several of the leading establishments being on the railway; Marion, in traversing which you see fine lands and farms for a number of miles on either side of Lebanon; and then you have the coal measure lands, which are not especially fertile except under skillful manipulation, all the rest of the way. Boyle county is comparatively rough; Lincoln and Rockcastle, much the same, and the line strikes through Laurel, of interest as being the seat of a very successful Swiss colony established in 1880 through the efforts of the Hon. John R. Procter, director of the Kentucky Geological Survey and Mr. E. A. Fellmer, Secretary of the Bureau of Immigration. This colony, called Bernstein, was settled on as poor soil as the coal measure formations could well produce. But the colonists were practical, intensive Swiss farmers, thoroughly trained in making as well as cultivating soil. So they went to work and fertilized. Without taking time to go through the history of their evolution, their present situation shows that the experiment has been eminently successful. The colonists have good houses and barns, a neat village with comfortable hotel. They have profitable dairy farms, producing milk, butter and cheese for Northern markets; fine Holstein cattle; truck farms, fruit farms, vine-

yards and wine presses. They have an agricultural society which invests in costly imported stock for breeding purposes for the benefit of members—churches, singing societies and a brass band. All appear to be thrifty and prosperous, and many are growing rich. The moral of this simple tale lies in the fact that there are wide stretches of more than fruitful land throughout the South, upon which our native farmers are slowly starving. The fact in question is a matter of serious import to the section and the nation. It represents a condition that is getting no better with lamentable rapidity, and something will have to be done about it. Perhaps Southern agricultural colleges may be doing good work in the direction of reform. If they are, the results ought to be about beginning to get ready to show.

After leaving Laurel, the train bustles through a corner of Whitley county to Corbin, where two branches of the L & N. converge. One goes on to Jellico and the Elk and Powell Valley districts, and the other makes through the counties of Knox and Pine to Pineville. It is not yet dark, and five minutes' drive across a fine bridge over the Cumberland river and through the town, brings the traveller to as neat and modern a hotel as can be found anywhere East or North. The company which has taken the development of Pineville in hand, had the good sense to make an early investment in a first class inn. When the weary investigator finds a comfortable bath, from which he steps into a springy barber's chair, and thence is advanced, through the various degrees, to an excellent supper, topped off by a well furnished room and undoubted mattresses and sheets, he is quite apt to fall into a frame of mind which will concede without much opposition all he may have heard in favor of the locality. If that investigator happens to be like the Racoons people, by the next morning he will feel hungry for mineral resources, as well as breakfast, and quite ready for a preliminary skirmish up the creek which is called Straight, to take a look at the coal and ore openings thereabouts. For anything in this line Col. Ray, the president of the townsite company is a cicerone from way back.

Straight Creek is in the line of hill country that catches the horizon of the Elkhorn coking coal, other coals, bituminous and cannel, and the brown ore of the Upper Silurian, Oriskany formation. One hardly turns up the creek from the town before coming to a good opening of the Elkhorn coal. Here a mine is being worked on a vein about 36 inches thick. A number of coke ovens are in operation already, but a Louisville company has recently leased the mine with a view to putting in a large coking plant. Farther up the creek—say three miles or such a matter—there is another opening of recent date, which shows six feet of coal. The position of this coal in the series has not been fully determined, but it looks as if it would make good coke. On the side of the creek opposite to the coal openings, the Pine Mountain fault has lifted the Oriskany formation of the Upper Silurian a hundred or more feet above drainage, and along that horizon are the outcroppings of a very good appearing brown iron ore. It occurs at the surface in the shape of a compact deposit of large boulders. I visited one opening where the face of the deposit was over 20 feet thick. The townsite company, also owners of this and much other mineral land, have done considerable prospecting and testing on this lead. They state that where they have opened the vein they find that it grows thicker as it is followed into the mountain. The greatest distance they have followed it yet is, I believe, fifty feet.

At Lowmoor, in West Virginia, and Clifton Forge, in Virginia, the iron industries are based upon this ore, and at both places the vein has been found to thicken

steadily. Mr. T. T. Wicks, engineer and managing director of the Lowmoor furnace, remarks: "In one instance, where the vein of ore was 16 feet wide at the surface, 208 feet down from this surface the vein was 70 feet wide." Working on this ore alone a few years ago, Lowmoor furnished one eleventh of all the freight handled by the Chesapeake & Ohio Railway. With such possibilities the Oriskany ores of the Cumberland region are entitled to respect and particularly to consideration, but, above all, to careful and thorough examination. At present the openings made on the Pine Mountain side of the Gap are insufficient to warrant any conclusion as to whether they do or do not present the same conditions as at Lowmoor and Clifton Forge. The next two weeks will probably settle that matter for the Cumberland Mountain on the Tennessee side of the Gap. The English company there is having a number of deep openings made both on the Oriskany and Clinton ore horizons. It is likely that this work will settle the question. It is to be hoped that the Pineville people may be equally enterprising. Until farther data has been secured, all that can be said of the Pineville Oriskany ores is that there seems to be a reasonable probability that thorough exploitation may prove them to be sufficiently important to feed a considerable iron industry on the spot. Such a demonstration would establish the future of Pineville as an iron town beyond any adventure.

Westward of Pineville there are other openings on the Oriskany ore, and on the Elkhorn coking coal. The seams of the latter are not generally as thick in this part of the field as they are farther East, in which direction the horizon seems to thicken steadily from Cumberland Gap. On the other hand the Elkhorn seam may run some distance farther West than it has been traced, and may thicken in that direction too. The recent discovery of 60 inches of coal, showing analysis identical with the best known examples of Elkhorn coal and coke, near Jellico, would appear to justify such a suspicion.

Within a short time the Louisville & Nashville Railway has been pushed to the Cumberland Gap tunnel, there connecting with the Knoxville & Cumberland Gap Railway; so that, almost immediately, Pineville is to be brought into direct contact with the iron regions on the other side of the ridge. That being the case, the coke industry, based on the Elkhorn coking coal, would make Pineville a busy mountain center, iron or no iron. I am hopeful though that the local iron ores may be found in massive deposits and that the coking coal may show up in wider seams.

The change that has come over Pineville since enterprise and the Louisville & Nashville struck the place is hardly less than startling. In the stead of a wildly primitive backwoods village, one steps off the train to fall up against telegraph and express offices, hacks and hackmen, a fine courthouse, several hotels, a number of handsome residences, post office, newspaper office, bank, schools, churches, and all the rest of it. Without risking much we might assert that nothing of any of these kinds was discernible in or about Pineville when "A. Powell," whose name with the date 1750, used to appear on a neighboring beech tree, visited the place, and doubtless there had been but little "boom" between that year and the time Daniel Boone tramped through the Gap in 1769. To-day Pineville with its industrial environs, represents the life and enterprise of a Kentucky which would hardly be more near to Powell and Boone than it is to people yet very much alive.

These poor mountain counties, long despised and almost ashamed to answer to the call of ayes and noes in the State

legislature! Behold they are fast becoming the corner stone of the edifice. A glance at the enhancement of taxable values from 1887 to 1888 will be suggestive:

Bell county	1,740,074.	1,888.
Clay	3,073,774	3,164,138
Harlan	813,309	1,000,000
Knot	414,504	413,612
Leslie	479,380	490,056
Letcher	746,020	744,940
Perry	586,305	575,407
Total	24,796,743	26,627,425

Considering the necessarily slow removal of the many obstacles to progress in these mountains, the figures shown above are surprising. It is reasonably certain that the statement for the current year will prove even more so.

Brief mention has been made of the timber resources of the Cumberland Gap region and much more probably will be written before we get through with it. The same remark applies to other things. We shall not leave Pineville and its vicinity finally with this paper. Pineville, Middlesboro, Cumberland Gap, Dillwyn Springs, Jellico, Johnson City, Big Stone Gap, Big Creek Gap, Jellico, Mahan's Station and perhaps other places all combine to cover a region whose lines of development are too completely interwoven to admit of segregate treatment. The whole thing together means the great Cumberland mineral district (patent applied for)—and, so, to return to lumber:

I read in a statement printed in one of the Pineville publications that a single lumber company had last year in the Cumberland river and its creeks over 40,000,000 feet of logs awaiting tides! Pineville and all the settlements up and down the Valley are full of lumbermen. The denudation of the more northern forests has thrown the lumber trade in hardwoods and poplar into the arms of Eastern Kentucky. It is stated that the lumber trade of Louisville, which in 1880 amounted to only 10,600,000 feet, now crowds 150,000,000 per annum. Louisville and Cincinnati are becoming the lumber and timber marts, instead of Detroit and Chicago. There is a statement extant which is given as an expert report upon 50,000 acres of Cumberland Valley timber lands. As Mr. Procter appears in the quotation below, to accept the statement as all right I feel confidence in using it:

TIMBER ON 50,000 ACRES CUMBERLAND VALLEY LANDS.	
Black Walnut	23,320,000
Yellow Poplar	50,000,000
Chestnut	26,000,000
Ash	24,000,000
Hickory	18,000,000
Total	192,320,000
White Oak Staves	105,000,000
Tan Bark, cords	25,000

Referring to the foregoing the Hon. John R. Procter is quoted as saying: "It is safe to estimate that there are 500,000 acres of such timber tributary to the streams centering at Pineville." Before we are at it much longer we shall be able to show the coal man and the coke man, the pig iron man and the steel pig man, the hard lumber man and the soft lumber man, all and singular that the Cumberland Valley mineral region of Kentucky and Tennessee is too rich in both resources and prospects, not to demand serious and continued attention. The iron and lumber worlds, especially the former, have learned some unpleasant lessons, through unwillingness to believe that anything could happen in the nature of things to threaten old monopolies or to smash time-honored connections, associations, even prices. Birmingham was a case in point. With that memory still fresh, there are several hundreds of excellent and wealthy gentlemen in New York and Pennsylvania, who ought to start by the next express for the Cumberland Mountains. The character and extent of iron, and coking coal deposits, their proximity, or convenience to each other, and many other things render this district just coming into notice, a good one to study. We shall resume ours, probably, at Jellico.

GOLDSMITH BERNARD WEST.

A LIVE TOWN.

And What It Has Accomplished in One Year.

A Good Illustration of Southern Progress.

[Special correspondence MANUFACTURERS' RECORD.]

ANDERSON, S. C., August 18, 1889.

One year ago Anderson was where many of her sister towns still are—in the old ruts, from which the moss and accumulations had not been removed for decades. A change, however, came over the spirit of her dream. A few live, wide-awake men organized a company for the purpose of erecting a hotel with Mr. F. T. Wilhite as president. It was a crying need, and, after much talk and much opposition, a small subscription was raised. This was the entering wedge. Then the subscription was increased and finally a \$50,000 building was decided upon. This building stands to-day almost completed, and will be ready for occupancy this fall. It is an honor to the town, a credit to the State and a memorial monument to its promoters. While other towns are discussing \$50,000 hotels, Anderson has obtained hers.

I should not say so much for the hotel,

is home capital, and starts out under most favorable auspices.

A company has just been organized with a capital of \$25,000 to erect a spinning mill. There are two other industries now under consideration which will probably be commenced, and for which the people will call in outside capital. These are a shoe factory and a tannery, both of which could be managed very successfully here.

All these enterprises have grown from the first move of the friends of the hotel project of a year ago.

There are in addition to the new industries a cotton-seed oil mill, an ice factory, machine works, a fence company, five planing mills, two brick-yards, a wagon factory and many other lesser industries. There is also the Patrick Military Institute, one of the best schools in the State.

Taxes are very light, but notwithstanding this the present council, consisting of Mayor J. L. Tribble and Aldermen W. W. Humphreys, F. E. Watkins, J. J. Baker, F. T. Wilhite, J. M. Hubbard and G. E. Brown, have paid nearly \$4,000 old indebtedness during the year. The streets are in good condition, and the finances of the town are in a most healthy state.

There are two well-conducted newspapers here, the *Intelligence* and the *Journal*, and both reflect the prosperity of the town.

I cannot close without stating the fact



ANDERSON'S NEW HOTEL.

great as is its benefit to the place, were it not for the fact that this was the text which has worked a wonderous change in the hearts of the people, and \$250,000 is now being spent in new buildings and new manufactoryes. Though previous to the erection of the hotel some subscriptions had been made toward the cotton factory, the place of honor must be accorded the hotel as being that upon which work was first actually begun.

Among the new buildings is the Masonic temple, with stores, offices, hall and opera-house, to cost about \$25,000. The walls of an \$100,000 cotton mill are being erected as fast as men and mortar will do it, and it is intended to purchase machinery in time to utilize some of this year's crop of cotton. Nearly a dozen new store buildings are going up on the square. A female college has just been organized, and an elegant building is to be erected at once. The Baptist church is to be remodeled at a cost of \$10,000.

The Farmers' and Merchants' Bank has just begun operations with a capital of \$50,000. Mr. R. S. Hill is president and Mr. J. R. Vandiver, cashier. They have erected a handsome new building at a cost of about \$10,000, and fitted it with the best and latest appliances for security. It

that is so apparent to me, as well as to others who come here, that Anderson is a surprise in the amount of get-up and go-ahead-ateness she has developed in so short a space of time.

JOHN P. COFFIN.

BUILDING SUGAR MILL—ST. CLOUD, Fla., August 16, 1889.—I am building a sugar mill here with capacity of 5,000 pounds sugar per day; about 60 horse-power engine and boiler. Will be able to grind 100 to 150 acres per season. Will purchase cane outside my own crop.

R. E. ROSE.

A STORAGE WAREHOUSE—RANDLEMAN, N. C., August 14, 1889.—The Southern Plaid Manufacturers' Association will erect a cotton storage warehouse at Charlotte, N. C., to cost \$10,000, and to store at least 20,000 bales cotton, so as to be able to get best of cotton as soon as it comes into market.

J. H. FERNE, Secretary.

MACHINERY WANTED—MILLEDGEVILLE, Ga., August 16, 1889.—I want to purchase mill machinery for corn mill—engine, boiler and rocks, 2 sets—40 horse-power engine and 50 horse-power boiler. I want to buy an electric plant for oil mill.

W. S. BROOKS.

The Iron Ores at Buena Vista, Rockridge County, Va.

[E. C. Pechin in *New York Engineering and Mining Journal*.]

For many years past the iron ores of Virginia have at intervals been brought to the attention of the public as full of promise, but in the main there has been little realization. Lowmoor and Longdale have been fairly successful, and further south Roanoke, Pulaski and Inyanhoe have been doing good work, but all along the western base of the Blue Ridge north of the James river there has been thus far much disappointment. The writer has lately examined some of the ore deposits on the Buena Vista and adjoining properties, and his conclusions may not be wholly devoid of interest. The position is a somewhat embarrassing one, because he has to stand midway between the native and the adopted Virginian, who sees in every outcrop or float the unquestioned evidence of veins of ore of marvelous richness and inexhaustible quantity, and a good many very shrewd and intelligent business men in the North who have had experience with brown ores North and South, and especially in certain parts of Virginia, who refuse to believe that any substantial mines can be discovered or operated in that section.

The writer will simply give what he has seen, and let the reader determine for himself the correctness of his conclusions. One thing is certain, that a real mineral region is more largely benefited by the statement of what seems reasonable and can be proved, than by indulging in wild imaginings and fanciful predictions. The one is calculated to develop a substantial prosperity, if somewhat slow—the other "wildcats," frisky and exciting while they are about, but leaving loneliness and disappointment and many unsaleable corner lots at their early departure.

Before we get to the ores, a few words must be said about Buena Vista itself. Previously to his visit, the writer had thought that Anniston, Ala., was one of the most admirable and picturesque sites he had ever seen for an industrial town, but Buena Vista beats it. Nature has nearly exhausted its capacities in taking care of it. For miles along the clear, bold flowing waters of the north and south forks of the James river stretch broad, fertile fields, which are now being laid out into town lots for the million; behind these low, beautiful rounded, verdure clad foot hills, and back of all the magnificent range of the Blue Ridge Mountains, stretching its splendid horizon line north and south for an indefinite distance. The flats lie about 850 feet above tide; a second plateau and the foot hills rise from 75 to 300 feet higher, while the mountain peaks and crests tower above the plain some 1,200 to 1,700 feet.

Standing on one of the minor elevations, with the flashing river on one side, the bold mountain range on the other, and the far-reaching verdant fields between, the sight is rare and surpassingly attractive. The present owners are building a commodious and pretty Queen Anne inn on a wooded plateau, some 90 feet above the plain, from the front of which all of these beauties can be noted; and when it is open, which will be soon, the place will be well worth a visit, whether one is after iron ores or not.

Man has largely assisted nature in making the place desirable. The Lexington branch of the old and now disused James River & Kanawha Canal has, at short intervals, massive stone dams from 12 to 15 feet high, giving a large and continuous water power. The Shenandoah Valley Railroad runs through the property some six miles and more; the Lexington Branch of the Richmond & Allegheny R. R. cuts the town site, and by it also the Valley Branch of the Baltimore & Ohio R. R.

reaches the location. Practically, the property is served by three great trunk lines, running north, south, east and west, and in three directions tapping inexhaustible supplies of fuel—the Flat Top, the New River, and the Connellsburg coal fields.

Less than 300 miles from the Ohio river, at Huntingdon, 400 miles from Pittsburgh, and from 450 to 600 miles further north than Chattanooga and Birmingham, a faultless climate, neither too hot in summer nor too cold in winter, with ample supplies of pure drinking water, available by gravity, adapted to a cheap and perfect system of drainage, and surrounded on three sides with a fertile and cultivated region capable of furnishing large supplies of cheap food products, it will be hard to find anywhere a fairer or more attractive site for building up an inland industrial town, or where a large working population can be more happily and comfortably fixed. The important question now arises, what is there to form the basis of an industrial town or support a large working population, and this naturally brings us to the consideration of the iron ores.

The ores of the Potsdam sandstones and of the Cambro-Silurian limestones have received large attention at the hands of the geologists.

Prof. Prime, in his reports to the Second Geological Survey of Pennsylvania (see vols. D. 2 and 182, D. 3), covers the ground very fully, and very much what he says as to conditions met with in Pennsylvania apply as well to this locality. Mr. Andrew S. McCreath, in his "Mineral Wealth of Virginia" (page 44) gives a terse description of the ore openings seen by him on this particular property. In 1885, Prof. J. L. and F. D. Campbell, of the Washington and Lee University, of Lexington, Va., made a careful examination of the Buena Vista estate, giving a full report. It is not within the province of this paper to consider the geological conditions, except incidentally, as indicating quantity. The accompanying section, taken from Prof. Campbell's report, is intended to give a profile view of the rocky strata of the region, with their ore beds, supposed to be cut to a great depth.

"The strata of sandstones are denoted on the section by dotted bands, those of shale and slate by ruled bands, and those of limestone by blocked bands, while the beds of ore are indicated by * * *.

At many places along the flank of this mountain range only a single outcrop of these ferriferous shales is found, but here, in consequence of wavelike irregularities in the strata, together with subsequent denudations, several successive exposures of shales and their ore-beds occur, giving access to a most unusual number of exposures where mining is comparatively easy.

By a westward or rather northwestward thrust all of these beds had the southeastern margins elevated, while a little way out from the mountains, and for many miles westward, all of the stratified beds were greatly disturbed, some wrinkled, some fractured and some even inverted."

What chiefly interests us is not how these ores get there, but how much of them are probably left. The so-called expert who wanders along an outcrop and sees some cross cuttings and exploration pits, and then talks about millions upon millions of tons of ore, is simply an ass, and shows his ignorance of brown hematite and mining in general. One man can see into the ground as far as another and no further, and the only way to arrive at precise notions as to quantity is by thoroughly opening up and proving the ground. At Buena Vista, while dealing with no figures, we deem it a fair presumption that large, very large, quantities of good brown ore are to be found there, ample,

[CONTINUED ON PAGE 35.]

**\$1,000 Bonus.
FREE SITES!**

TO MAKE A

Profitable Investment,

Correspond with Jas. W. Waters, Sec'y.

New Berne, North Carolina

IN RELATION TO THE

MANY SUPERIOR ADVANTAGES

—AND—

Ample Inducements

that **NEW BERNE** is holding out to those desiring to establish

FACTORIES WHERE THEY WILL PAY.

We are in the center of a most magnificent timber region. Wood of all kinds in abundance, and the best facilities for transporting to the mill and from the mill to market.

We are very anxious to develop our section by establishing factories. We have everything except capital, and we will make it pay capital to come to us.

We know that people flock to the booming sections, but still we do not want a boom, but a good, substantial and steady growth, such as we have had for the past ten years. The point is now reached with us that we can go no farther without capital to assist, and it will pay capital to investigate what we have to offer.

New Berne is now offering every inducement possible to aid manufacturing investors who will establish enterprises adapted to the natural advantages of this section. Address

Secretary New Berne Board of Trade

Charlottesville, Va.

OFFERS

Great Advantages >

AND

Liberal Inducements

TO

MANUFACTURERS

DESIDING

TO LOCATE SOUTH.

Railroad Facilities, Cheap Rates and Rapid Transportation to all Points Unexcelled. Perfect Climate. Unlimited Supply of Excellent Water. Gas, Electricity and Street Railway. Free Schools and Churches. Different lines of Manufacturing Enterprises already in successful operation here. A Live and Growing Place.

Home capital will join in the establishment and operation of factories.

Come and see, or write to

JNO. M. WHITE, President,

Charlottesville Industrial and Land Improvement Co., Charlottesville, Va.

**To Those Looking
—FOR—
Manufacturing Sites
IN THE SOUTH.**

The most desirable locations in the South for manufacturing wagons, stoves, agricultural implements, furniture, or for foundries, machine shops, rolling mills and nail works, glass works, cotton or woolen mills, are to be found in Virginia along the line of the Norfolk & Western Railroad from Norfolk to Bristol, and upon its branch lines. Hard wood of every variety; cheap iron from the furnaces at Lynchburg, Roanoke, Radford, (to be built in 1889,) Pulaski and Ivanhoe; cheap coal and coke from the celebrated Pocahontas Flat Top field; glass sand from Tazewell county; cotton from the markets of the Southern States, and wool from all the Western and Southwestern States and Territories, at advantageous freight rates. Favorable freight rates made upon raw materials to all factories established upon its line, as well as to points in the United States and Territories upon the manufactured articles.

Those seeking new fields for manufacturing establishments should not fail to investigate the wonderful development in iron, coal and coke industries that has been made within the past five years along the line of the Norfolk & Western Railroad, and the advantages offered by the State of Virginia in the supply of cheap raw materials; by the Norfolk & Western Railroad in the matter of freight facilities and rates upon raw materials, and for reaching home, far distant and foreign markets, and by the cities and towns along its line in the way of advantageous sites at moderate cost. Many of the cities and towns exempt manufacturing establishments from taxation for a series of years.

For further information as to freight rates and sources of supply of raw materials, apply to A. POPE, General Freight Agent, Roanoke, Va., or to

**CHAS. G. EDDY,
Vice-President, Roanoke, Va.**

RADFORD, VA.

Town Lots, Mineral Timber and Farm Lands.
We have many large and small tracts. Iron Ore, Coal, Glass, Sand, Marble, Building Stone, and Several Mineral Springs, of Wonderful Curative Properties.

The best of farming and grazing lands. No malaria. No mosquitoes. Salubrious climate. Gorgeous scenery. Water power unlimited. Factory sites donated. Property at first hands, so get in on "rock bottom." Write to, or call on

**BARCLAY & CROCKETT,
The leading Real Estate Agents of Southwestern Virginia, RADFORD, VIRGINIA.**

FLORENCE, ALABAMA.

Investments in Stocks, Bonds and Real Estate. Correspondence solicited. Information gladly given. Address

**DILLARD & WALTON,
Florence, Alabama.**

SUMTER
South Carolina,

is situated in Sumter county, midway between Florence and Columbia—40 miles from each—95 miles from Charleston, 220 from Augusta, Ga., and 126 from Wilmington, N. C., in the heart of an

EXCELLENT AGRICULTURAL COUNTRY.

It is on the Wilmington, Columbia & Augusta Railroad, and is the terminus of the Central of South Carolina as well as present terminus of the Eutawville Railroad, which is in course of construction to connect with railroads from Norfolk, with prospects of another in the near future.

It has a rapidly-increasing population, which at present numbers about 4,000.

ITS HEALTH IS UNSURPASSED

and it is one of the finest locations in the South for a

Winter Resort

for those seeking refuge from the cold blasts of the North.

A \$50,000 HOTEL is now under discussion, and any reliable hotel man who would like to engage in the undertaking can learn of something to his advantage by addressing Mayor Mood.

ICE FACTORY

is wanted; an Electric-Light Plant is now being put in, and Water Works are in progress. Those seeking locations for

HOMES

or business will do well to correspond with the people of Sumter.

GEO. T. McWHORTER, President, Chickasaw, Ala.

JAS. M. ALLEN, Secretary, Waterloo, Ala.

Capital Stock \$200,000.

THE

Waterloo Land, Mining & Mfg. Co.

of Waterloo, Lauderdale Co., Ala.

will encourage the location of manufacturing and industrial enterprises in the town of Waterloo by donations of town lots, mineral and timber lands, and stock of the company. Persons who contemplate engaging in enterprises of this character in North Alabama are requested to consider the advantages, present and prospective, of this point before deciding to locate elsewhere. Waterloo is situated on the north bank of the Tennessee river, below Colbert Shoals and consequently at the head of summer navigation on said river. During low-water stage light draft steamers run from Waterloo to Florence, Sheffield and other points above the shoals, freight being transferred at Waterloo. At this season goods may be shipped from St. Louis, Cincinnati, Louisville, Evansville and all Western river cities to Waterloo cheaper than to any other town in Alabama. Chickasaw excepted. Waterloo is in the heart of the mineral belt, the immense beds of iron ore of Wayne and Lauderdale Counties lying in close proximity (5 to 10 miles). Limestone, silica and kaolin are abundant and close. The largest area of virgin forest in North Alabama lies in sight. The Land Company owns large bodies of this, together with many valuable town lots. The water supply is abundant and pure. Scores of springs bubble up within the town limits and the limpid waters of Second Creek wash the eastern border. The health of the community is unexcelled and the cost of living cheap. This is the largest shipping point for tan bark in the state. Present price of bark at landing \$4.50 per cord. Special facilities for tanning leather. The Land Company will donate a large body of fine timber and mineral land in a block to secure the construction of a railroad, north or east from Waterloo, such a road being needed in connection with the unequalled facilities of water transportation enjoyed by the town. Liberal aid will be given to persons who will locate industries here that give employment to labor and add value to raw material.

No matter what you intend to manufacture, consult the Waterloo Land, Mining & Manufacturing Co. and learn what facilities for the prosecution of your business the place enjoys and what inducements will be offered you to come. All questions truthfully and fairly answered.

For further information consult the President, Secretary or Hon. Hiram Richardson, Vice-President, Waterloo, Ala.

**WANTED
IMMEDIATELY.**

Planing *

MILL,

**WEST
LYNCHBURG.**

Within Short Distance—mile and a half—of Norfolk & Western and Richmond & Danville Railroad,

Line of Belt Railroad between them, now constructing.

Magnificent Forest

**VIRGIN
TIMBER.**

In the Heart of New Town, where Building will be Active and on edge of a

PROGRESSIVE CITY

of 25,000 people.

**Extraordinary
Opportunity**

WILL BE GIVEN THE

First Planing Mill.

Address Immediately

Lynchburg Land Co.

LYNCHBURG, VA.

Anniston

THE CENTER OF
Iron and Cotton Industry
AND MINERAL WEALTH.

"The Model City of the South."

IT IS

The Profits of Labor only that can add to the wealth and prosperity of a nation or community. It is this only that can make business successful and profitable, sustain and add to the value of real estate.

WHERE

Nature's resources are greatest, where nature's capital in rich agricultural lands, and where iron, coal and other useful minerals are most abundant, most accessible and of superior quality for all purposes, there will capital find its safest investment, largest returns and labor reap its richest reward. It is to the Anniston District where the best professional mining engineers and experts of the United States declare the great center of the iron industry of the South will drift, where its manufacture will be most permanent and profitable, and where ores in the greatest abundance and accessibility exist, and where they will be most easily mined, that this applies.



WOODSTOCK FURNACES—ANNISTON.

The Development of the Past Fifteen Years

Confirms all this, and every year convinces the experts of the correctness of their judgment. It is no longer opinion based on scientific and practical education; it is a fact that is clearly and successfully demonstrated, so that the visitor to the Anniston District can see at every step. The four iron furnaces that have been so long and successfully operated, and the new plant now being erected, and rapidly approaching completion, which will be capable of producing one hundred thousand tons of pig iron a year, demonstrate that

NOWHERE ELSE IN THE SOUTH

Has the iron industry been so profitable and so successful, or been established on so permanent a basis, and of no district is this so universally conceded by all, while nowhere else have arrangements been perfected and already established on so complete a scale to work the crude iron into higher branches of manufacture to increase its value, and to bring into the district the profits of skilled labor. **THE GREAT CAR WHEEL WORKS OF NOBLE BROS. & CO.**, their rolling mill and steam forge and machine shops, and the Alabama Car Works, have been absorbed by the

UNITED STATES ROLLING STOCK COMPANY

With a capital of \$4,000,000, for the purpose of adding to and enlarging the entire plant to build **TWENTY CARS A DAY**. Everything that goes into the creation of a car, except the tin for the roof and the wire nails, will be created from Anniston's crude material by her labor and skill. Fifty tons of wheel iron will be made into car wheels daily, twenty tons into car axles, fifty tons of pig iron into car and other castings, and fifty tons into bar iron and bolts, making nearly ten thousand dollars per day added to the wealth of the country by profitable labor converting nature's capital to the use of man. This company have a capital of \$4,000,000, and their Anniston works will represent a cash outlay of \$1,000,000. One thousand skilled mechanics will be employed as soon as the great enlargements under way can be completed.

THE STEEL BLOOMARY

Consumes and increases the value of twenty tons of pig iron per day, while the Pipe Foundry converts to the use of man **TWO HUNDRED TONS OF PIG IRON PER DAY** in one of the largest and best planned and most convenient labor-saving works on this continent. *The Foundry of Murray & Stevenson, Engine and Machine Works of Pinder & Co., and Boiler and Sheet Iron Works of J. & D. Noble*, all add to the consumption of crude material by the creation of finished work.

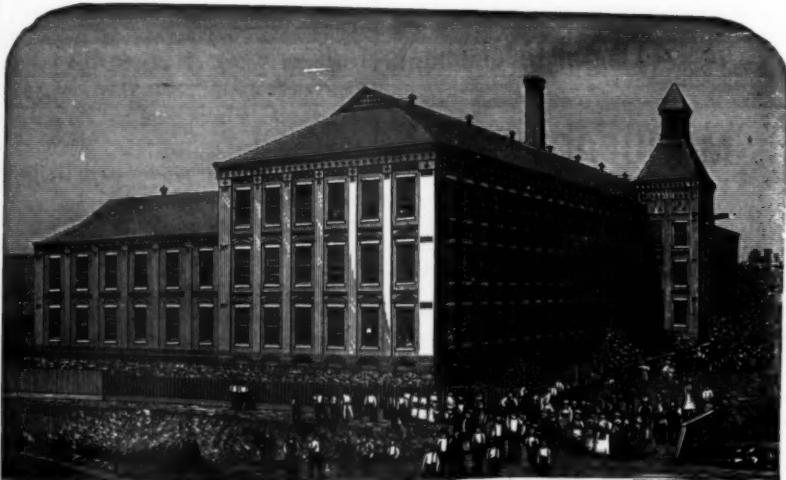
NOR IS IT TO IRON ALONE

That Anniston relies for increase of wealth and population. The Cotton Factory, with eleven thousand seven hundred spindles and three hundred and seventy-five looms, employing over three hundred and fifty operatives, adds greater value to the products of agriculture by converting six thousand bales of cotton into cotton cloth. The immense ninety-inch Morse Cotton Compress, with its brick warehouses, is fast making Anniston a cotton market and commercial center, and aiding its wholesale and retail merchants to extend and hold the trade of the country tributary to Anniston that its system of railroads has opened to them. The Georgia Pacific, the East Tennessee, Virginia & Georgia Railroad systems,

Give Direct Communication and Through Rates

To all parts of the country, while the Anniston & Atlantic Railroad, built by Anniston capital to open up new agricultural and mineral resources, gives Anniston, by connection with the Central of Georgia system, communication with the Atlantic sea coast and the new Anniston & Cincinnati Railroad, built and owned by Anniston citizens, opens up new resources and connections, and a shorter line with the great Northwest.

The proposed extension of the Anniston & Atlantic Railroad to Blocton will give another and shorter line to the great Cahaba Mines, producing the very best coal for domestic and manufacturing purposes in the South. Forty thousand acres of these coal lands, upon which a million and a half dollars have been lately spent in opening new mines and building several hundred coke ovens, **ALL OWNED AND CONTROLLED BY ANNISTON CAPITAL**, and developed to mine and manufacture three thousand tons of coal and coke per day, secures to Anniston for generations to come a full and certain supply of cheap fuel for all her industries, operated where a rich agricultural country can feed a manufacturing and commercial people, and where the



ALABAMA MANUFACTURING COMPANY'S COTTON MILL—ANNISTON.

Best, Healthiest and Most Invigorating Climate in the World,

With mountain air and pure water, and an elevation of nine hundred feet above tide water, insures the health and comfort of the workman and his family; where health and comfort stimulate and lighten labor, and secure to it and its industries the reward due to both. It is these advantages which have been given by nature that enabled Anniston's citizens to create her past and present prosperity, and which secure her future. It is that they may participate in and avail themselves of these advantages that Anniston invites **NEW CAPITAL AND TALENT AND ENERGY** from all sections. We invite all to come and see, and on the spot to judge for themselves of Anniston's great resources and possibilities. The comfort and quiet of the famous Anniston Inn will make a visit to our city a treat and pleasure. Any information, attention and courtesy will be given and shown by addressing or applying to the

ANNISTON CITY LAND CO., ANNISTON, ALA.

SOME FACTS ^{ABOUT} FLORENCE, ALA.

Florence is in North Alabama, near the Tennessee line, on the Tennessee river, which is navigable here for large steamers. It is on the Memphis & Charleston Railroad, and the Nashville & Florence branch of the Louisville & Nashville Road.

* * * * *

There are many other places in the South possessing the advantages of a good climate, healthfulness, natural resources and manufacturing capabilities more happily combined and in a higher degree than can be found in any other part of the country. It is believed, however, that at no point in the South, and hence nowhere in America can there be found an aggregate of so many unsurpassed advantages and attractions as exist at Florence.

* * * * *

Florence can make iron as cheaply as any place in Alabama. It has facilities for the manufacture also of cotton goods equal to those of any other place. Anything that uses wood as a raw material can be made here at as low a cost as anywhere in the South.

Thousands of acres of iron ore of a high grade within a few miles of Florence are owned by Florence companies. Limestone is quarried within the town limits. There is enough of it to last for ages.

Cotton mills would get a large part of their supply from the country around Florence. Cypress creek furnishes water power and mill sites enough to make Florence the Lowell of the South.

North of Florence, and up the Tennessee river, there are large areas of timber, embracing a wide variety of hardwoods—forests that the ax has never touched.

* * * * *

Besides its industrial possibilities, Florence is a point of great commercial importance, and could be made the center of an enormous mercantile business. It has the advantage of both rail and river transportation and of competing railroads. Certain railroad movements are in progress now that will give it direct communication in every direction and by different lines.

Florence is surrounded by a wide extent of fertile and productive country, as well adapted for farming, stock raising, fruit growing, truck farming, dairying, &c., as any in the world. Further, it has a climate that is delightful the year round. Its health record cannot be surpassed. It has no malaria. In fact, people who live here enjoy a remarkable exemption from ailments of every sort. It has an abundance of the purest water.

* * * * *

For beauty of location Florence is without a peer. The Tennessee river at this point is as romantic and beautiful as the Hudson. The rolling character of the country, the slopes and hills and alternating valleys furnish a picture to charm an artist's eye. The lovely Cypress creek, a deep and rapid stream emptying into the river just below the town, presents at every turn in its tortuous course a scene of entrancing beauty. The views from some of the higher hills are as fair as the eyes of man ever rested on.

* * * * *

Florence is making more rapid progress, proportionately, than any other town in America. This is a strong statement but it is true. And its growth is on a solid and permanent basis.

* * * * *

Florence is not undergoing any wild real estate boom. Its managers are not seeking to advance real estate prices. It is not their plan to get a quick return for the money they have invested, by the rapid sale of lots at unnatural prices. It is their aim to first build up a town, to locate factories and secure a permanent population, when land will have an actual value and sell at prices from which there will not be a subsequent disastrous reaction. At present real estate is much lower in price than in any other town in the South that has made half the progress Florence has made.

* * * * *

Since the first of September, 1888, over 25 industries have been located at Florence, with an aggregate cash capital exceeding \$2,000,000. This remarkable growth is the result of efforts to induce people to simply investigate the attractions of Florence. Investigation and comparison with other places, on the part of any who are looking for a place in the South to locate, will in nearly every case result in the selection of Florence.

* * * * *

The following are some of the industries in Florence. Some of these are in operation; others are nearly ready for work and others have but recently commenced work on their buildings: A furnace about ready to go into blast, and another partly constructed; a stove factory; a hardware company, with a capital of \$300,000 to manufacture fine building hardware, &c.; a wagon factory, with capital of \$150,000; an agricultural implement works; a handle factory; a woodenware factory; a sash, door and blind factory; a cedar bucket factory; a pump factory; planing mills; a factory to make wooden butter plates such as grocers use; a flour mill; a cotton mill; a jeans factory; a gingham factory; a woolen mill; cotton gin; a marble company; a roofing and paint company; a shoe factory; a suspender factory; a compress, packet and ferry company; three building and loan companies; a canning factory; several brick factories; a dummy railroad company, and several other enterprises.

* * * * *

The aggregate capital of the industrial, mercantile and development enterprises in Florence exceeds \$15,000,000.

A year ago the population of Florence was 2,000. It is now more than 8,000. There are more than 1,100 carpenters at work in Florence and they can't build houses fast enough to keep up with the increase in population. Before the first of January next there will be 15,000 people living here.

* * * * *

Limited space allows here only the briefest summary of a very few of the more important facts about Florence. For more detailed information write to any of the following companies. Or better still, come down and see for yourself. Investigation is all that Florence asks or needs.

Railroad and Improvement Co.

Lauderdale Manufacturing Co.

Cotton and Iron Co.

Florence Investment Co.

NEW DECATUR,

ALABAMA.

The New Industrial City of the Great Tennessee Valley.

DESCRIPTION OF ENTERPRISES ALREADY ESTABLISHED:

1. The United States Rolling Stock Company's Plant.

For full description see back numbers of the "Record"—June 1, 8, 15, 22, 29.

2. The Louisville & Nashville Railroad Company's Shops.

For full description see back numbers of the "Record"—July 6, 13, 20, 27; August 3, 10.

3. The Southern Horse Nail Company.

R. H. BALLINGER, President.....New Decatur, Ala.
W. W. LITTLEJOHN, (Cashier 1st Nat'l Bank) Treasurer.....Decatur, Ala.
R. A. BALLINGER, Acting Secretary.....New Decatur, Ala.

This company manufactures horse-shoe nails by a new and improved process, and of a greatly superior quality. Their plant has been in operation only a few months, yet has already turned out and sold 1,500 boxes of nails. It has 10 f'g'es, of a combined capacity of about one ton per day. The buildings are situated on the Manufacturers' Switch-track, and are of brick and stone, of the most substantial and permanent character. The dimensions of the main building, which has a metal and truss roof, are 44x188 feet, and of the engine house 30x30. The company has already established a market for its product in New York and Massachusetts, south of the Ohio and west of the Mississippi, and after careful tests by experi-

J. A. BREWER, Agent.....Great Barrington, Mass.
EDWARD BAILEY, Agent.....903 Chestnut St., St. Louis, Mo.
JONAS TAYLOR, Agent.....Nashville, Tenn.

enced smiths the nails have met everywhere with unqualified approval. The material used is the best Norway and Swedish product, the best soft steel in the world, imported for the purpose. The nails are hot forged, and it is claimed for them, and has been proved by ample tests: 1. That they are the best driving-nail made. 2. They will not split, bend or Oliver, which is a frequent cause of lameness. 3. They are perfect in finish and shape, having well formed heads, fitting the shoe perfectly, and never growing loose by wear. 4. They are perfect in toughness and ductility, being hammered in forging similarly to the old fashioned hand-made nails.

4. The Decatur Iron Bridge & Construction Company.

This company was organized during the year 1887, and erected their plant during the summer and fall of that year, on an admirably-located tract of land covering about fourteen acres, fronting the Tennessee river. The buildings are connected by switch tracks with the Louisville & Nashville and the Memphis & Charleston Railroads, thus affording ample facilities for transportation by rail to and from all points North, South, East and West, and by water to and from all points on the Tennessee, Ohio and Mississippi Rivers. The machinery and all appliances are of the latest design, new and in perfect order, and ready for operation. The plant was operated successfully for several months, but the company was compelled to

suspend operations, simply and exclusively for want of capital, at a time when they had very large orders on hand, and were assured of permanent success. This plant, as described below, is now for sale, and can be purchased at a bargain. Manufacturers possessing sufficient capital and the necessary practical experience, can find no better or more profitable investment anywhere in the New South than this splendid plant, situated as it is in one of the very best locations in the country for that purpose. For further information apply to the First National Bank, Decatur, Ala., or to the Exchange Bank, New Decatur, Ala.

DESCRIPTION OF THE PROPERTY.

The property consists of about fourteen acres of land, a main building (of corrugated iron) 90x300 feet, and two "L" 60x75 feet each, in which is all the necessary machinery, new and in good order, for carrying on the business of bridge building and iron construction.

The real estate, independent of the improvements, has been valued by competent persons under oath at \$44,600, and the buildings, machinery and other improvements cost, according to the company's books, \$63,300, making in all a value of \$107,900.

In addition to the main building mentioned there is a brick pump house on the river bank, a stable and carriage shed, and a two-story frame office building 30 feet square, finely furnished, heated by steam, and provided with all necessary furniture and fixtures.

A side track from the Memphis & Charleston Railroad is laid alongside of the shops, convenient for loading and unloading material, and the tracks of the Louisville & Nashville Railroad also cross the property of the company. The cost of improvements is made up as follows, viz:

Buildings, grading and fencing.....	\$24,446 87
Furniture and fixtures.....	593 42
Mach.nes, engines, boilers and pumps.....	18,115 52
Han' tools and iron templates.....	3,669 88
Shafting, pulleys and belts.....	6,816 25
Cranes and travelers.....	2,523 35
Furnaces and forges.....	647 73
Pipes (air, steam and water).....	635 55
Hammer dies.....	351 04
Tracks, cars and turn-tables.....	1,886 90
Platforms and skids.....	963 95
Scales.....	975 13
Electric-light plant.....	1,034 23
Anvils, formers and swedge blocks.....	242 43
Miscellaneous.....	1,998 06
Total cost.....	\$63,300 31

THE FOLLOWING IS A LIST OF THE PRINCIPAL TOOLS SET UP IN PLACE, VIZ:

One 60 Horse Power Engine, with boiler.
One Blakeslee Bolt and Rivet Header and Upsetting Machine.
One 36 in. x 36 in. x 9 ft. New Haven Planer.
One Hillis & Jones 6 in. Double Angle Shears.
One 1,100 lb. Single Stand Morgan Steam Hammer.
One No. 3 Hillis & Jones Single Punch, complete.
Two 30 in. x 8 ft. bed Rotary Planers, Leighton & Burch.
One Single No. 5 Long & Alstatter Punch, 13 in. d.
One Single No. 5 Long & Alstatter Punch, 6 in. d.
One Kellogg & Maurice Steam Riveter.
One Allen Air Riveter, with Steam Compressor and Air Receiver complete.

Two 36 in. Back Geared Feed Prentiss Drills.
One Wheel Feed Prentiss Drill Press, 16 in.
One Reid Engine Lathe, 16 in. x 8 ft. No. 77.
One Reid Engine Lathe, 16 in. x 6 ft. No. 95.
One 15 in. Heady Shaper Tilt Table.
One Set Bending Rolls, 12 ft. clear.
One 3½ Single, class A, Acme Bolt Cutter.
One No. 10 Bolt Cutter, complete. (Wells Bros. & Co.)
Two 8,000 pound Harrington Hoists.
One 6,000 pound Harrington Hoists.
One Westinghouse Electric Light Plant, 100 lights.

One Bullard Punch Grinding Lathe.
Two Emery Grinders.
One Wood Boring Machine.
One Circular Saw.
One No. 4 Sturtevant Moss. Blower.
One Dellamaster Steam Pump.

In addition to the larger tools above mentioned, there is a large assortment of small tools, consisting of Drills, Wrenches, Hammers, Sledges, Tongs, Shovels, Pinchers, Dies and Taps, Calipers, Files, Cutters, Heading Tools, Lathe Tools, Chucks, Vices, Planer and Shaper Tools, Screw Jacks, Anvils, Formers, Augers, Bits, Reamers, etc., etc.

For Maps, Pamphlets and other Information about New Decatur, address

The Decatur Land, Improvement & Furnace Company, New Decatur, Alabama.

DENISON, TEXAS.

The "Yankee" City of the Southwest,

— AND —

* GATEWAY *

— TO THE —

GREAT STATE OF TEXAS.

The City of Dennison presents the Finest Opportunity of any City in the Southwest for the Investment of Capital in Large or Small Sums.

DENISON is situated in Northeastern Texas near inexhaustible beds of coal and iron, surrounded by the finest fruit lands in the world, and adjoining the INDIAN TERRITORY, which, in the nature of things, must in a few years be opened to settlement.

The growth of Dennison has been a natural one, the city having reached its present size—16,800 population—in sixteen years.

The city is regularly and beautifully laid out. Railroads run from it in four different directions. The Missouri, Kansas & Texas alone does an enormous business, having 54 miles of switch track in Denison, employing 500 skilled workmen and disbursing \$150,000 a month in wages.

The first public school in the State was established here, and the city's elegant two and three story brick school buildings, surrounded by attractive grounds, are well arranged for the use of the white and colored children. Its schools are in session ten months in each year.

We have sixteen church societies, seven of which are colored.

The city is well supplied with pure water from its numerous private wells—dug in the ground—and its first-class system of water works, giving the citizens ample protection against serious loss by fire, and enabling the insurance companies to rate the city first class as to fire hazard. Rate of taxation low.

The city has four miles of street railway, with six miles now building to be operated by steam motor; has two electric light companies and a telephone plant. It has an influential New England colony, and counts among its citizens people from every State in the Union.

A large hotel, to cost \$125,000, is to be erected here this year, and a large steel plant with \$2,000,000 of capital is contemplated.

30,000 bales of cotton were shipped from Denison in 1888. 200,000 baskets of strawberries and several carloads of peaches and other fruits have been shipped to market this season.

The Denison Canning Co., capitalized at \$100,000, has just been organized, and ground has been broken for a large fruit and vegetable canning factory.

A cotton mill company is being formed with a capital of \$500,000. Denison citizens have subscribed \$150,000 to this enterprise; Eastern capitalists will add \$350,000.

The climate of Denison is magnificent, situated nearly 800 feet above sea level. In summer it is warm, but far cooler than many cities farther North, and from 6 P. M. until after sunrise it is always cool. The city is very healthy.

The capacity of the ice factory is being increased from a daily output of 15 tons to 30.

The Denison Land & Investment Co. is prepared to give every reasonable encouragement to manufacturers, and solicit correspondence from such manufacturers as contemplate coming into the Southwest to locate.

Address all communications to

THE DENISON LAND & INVESTMENT COMPANY,

DENISON, TEXAS.

Paid-Up Capital, - - - - - \$1,200,000.

OFFICERS:

W. P. RICE, President.

MILTON H. FRENCH, Vice-President and General Manager.

ARTHUR L. BERRY, Secretary and Treasurer.

DIRECTORS:

W. P. RICE,
J. M. FORD,
A. R. COLLINS,

Kansas City, Mo.
Kansas City, Mo.
Denison, Tex.

B. J. DERBY,
PAUL LANG,
M. V. B. CHASE,

Burlington, Vermont.
Oxford, N. H.
Augusta, Maine.

MILTON H. FRENCH, Thomaston, Maine.
A. H. COFFIN, Denison, Texas.
JOS. B. LINCOLN, Boston, Mass.

Morristown, Tenn.

The Plateau City of the Great Valley of East Tennessee

is beautifully located on a plateau of Bay's Mountain, about equi-distant from the Cumberland Mountains which bound East Tennessee on the northwest, and the Alleghany Mountains which bound it on the southeast, and is 300 feet above Holston River, which washes the north base of the plateau three miles from the city. Its mean elevation above sea level is about 1,350 feet, while the hills and mountains immediately surrounding it rise to an altitude of 1,935 feet, affording views of surprising extent and grandeur, and at the same time so modifying the temperature that the thermometer rarely registers higher than 90° in summer or lower than 10° in winter. Its drainage is admirable, and malaria is unknown. It has nearly trebled its population since 1880, having now about 4,000 inhabitants. It is the commercial and business center of the richest and most extensive agricultural district in the State, where all the cereals and all the grasses

and tobacco are grown to perfection, and where fruits and berries abound. It has hundreds of thousands of acres of uncultivated forests accessible to it, abounding in Poplar, Pine, Hemlock, six varieties of Oak, Chestnut, Hickory, Cedar, Maple, Birch, Beech, Sycamore, Gum, Locust, Laurel, Buckeye, Mulberry, Ash, Cherry and Walnut. The Celebrated East Tennessee Marble underlies a part of the city, and it is surrounded with rich deposits of Iron Ore, Manganese Ore, Zinc Ore and Lead Ore. It has been said by one who has made a study of the subject, that within a radius of 50 miles around Morristown every variety of iron ore in the United States can be duplicated, and a coke can be made equal to Connellsville coke. We claim without hesitation that Morristown has in its immediate vicinity richer mineral ores, and a greater variety of them, than any city on the Continent.

MORRISTOWN

has Railroad Facilities equal to any city between Lynchburg and Chattanooga, and they will be speedily increased by the completion of the Carolina, Cumberland Gap & Chicago Railway, making the shortest possible railway route between the great cities on the Ohio River, Cincinnati and Louisville, and the seaboard cities, Charleston, Port Royal and Savannah. Besides, the Baltimore & Ohio Railway will probably extend a branch to it from Lexington, Va., and the Tennessee Midland will in all probability be built to Morristown, and a line be built giving direct connection with Atlanta.

MORRISTOWN

has a citizenship composed almost exclusively of native born Americans. It boasts a splendid system of Graded Schools, Five commodious Brick Churches, the finest Courthouse in Upper East Tennessee, an Opera House that will seat 600 people, two Solid Well Managed Banks, a flourishing Building and Loan Association, two of the Largest Commercial Flouring Mills in the South, Stove Works, an Agricultural Implement Factory, two Wood-working Factories, a Tobacco Factory, a Carriage and Wagon Factory, and many industries of lesser note.



It is lighted with electricity, and has water works under contract, and is now inaugurating a system of street railways. Its climatic advantages, its unsurpassed record for healthfulness, its abundance of pure water, its central and beautiful location, its transportation facilities, its fruitful agricultural surroundings, its contiguity to rich and exhaustless fields of iron, manganese, zinc and lead ores, marble, coal and timber, mark it as a place destined to be the commercial, manufacturing and railway emporium of Upper East Tennessee, Western North Carolina and Southeastern Kentucky.

To expedite this destiny the city authorities have wisely exempted from taxation for ten years all manufacturing establishments that will give employment to fifteen or more persons, and the county authorities have done the like, so that manufacturing establishments will be exempt from all taxation for ten years, except the merely nominal tax for State purposes. There has been no "boom" or inflation of prices at Morristown, and, as it possesses within itself and contiguous to it almost every element of wealth, it now presents the most inviting field for investment of any city in the South.

Persons who may desire fuller information can obtain it by calling on or addressing

MONTVUE LAND COMPANY

POSTOFFICE BUILDING, — MORRISTOWN, TENNESSEE.

FORT PAYNE, Alabama.

★ COME TO ★

The NEW ENGLAND CITY of the South.

Climate Unsurpassed. Abundance of Pure Water. Drainage Excellent.

No Better Point in the Union For Safe and Profitable Investment.

Situated on the MAIN LINE of the QUEEN & CRESCENT ROUTE, fifty-one miles Southwest of Chattanooga, and ninety-one miles North of Birmingham. Elevation is from 895 to 1,600 ft above the sea, and above fever districts.

DeKalb County is entirely free from debt; taxes light. Most liberal encouragement given to industries of every kind.

Iron Furnace and Rolling Mill will be constructed immediately, and other industries of various kinds are under contract.

Correspondence solicited from those who contemplate coming into the South to establish any kind of manufactory.

The different industries will employ at least two thousand skilled workmen, which will secure a population of over ten

thousand, independent of the many industries contemplated.

Iron of the best quality can be manufactured at as low cost per ton as in any other locality in the South.

Coal and iron are being developed rapidly of a superior quality.

Fine timber abundant and wood-working machinery of every kind can be profitably employed at this point.

The Company is prepared to give every reasonable encouragement to manufacturers who will locate at this point.

☛ Correspondence solicited.

CAPITAL \$5,000,000.

OFFICERS.

President, - - - - -	COL. J. W. SPAULDING
First Vice-President, - - - - -	HON. D. H. GOODELL
Second Vice-President, - - - - -	HON. HENRY B. PEIRCE
Secretary, - - - - -	C. L. T. STEDMAN
Treasurer, - - - - -	F. H. TOBEY
Manager, - - - - -	C. O. GODFREY

BOARD OF DIRECTORS.

HON. D. H. GOODELL, of Goodell Mfg. Co., Antrim, N. H.
HON. HENRY B. PEIRCE, Secretary of State of Mass.
GEN'L SELDEN CONNOR, Ex. Gov. of Maine, Pres.
Northern Banking Co., Portland, Maine.
COL. J. W. SPAULDING, Ft. Payne, formerly of Portland, Me.
HON. F. G. JILLSON, Providence, R. I.
HORATIO ADAMS, Boston, Massachusetts.
W. J. CAMERON, Pres. First Nat'l Bank, Birmingham, Ala.
COL. JOHN B. BODDIE, Birmingham, Ala.
W. P. RICE, Pres. Union Investment Company of Kansas City, resides Fort Payne, Ala.

FORT PAYNE COAL & IRON COMPANY, Fort Payne, Ala.

SHEFFIELD, ALA.

The Iron Manufacturing Center of the South.

At the head of navigation, on the Tennessee River, Sheffield is the natural outlet for the mineral and manufacturing products of Alabama and the neighboring States seeking a water route to points on the Ohio and Mississippi Rivers, and to the Gulf of Mexico, as well as the best distributing point over Alabama, Eastern Mississippi and East Tennessee, South Carolina, Georgia and Florida for Northern and Western produce, groceries, provisions, machinery, &c. Three Railroads already completed and in operation, and several others assured. Principal shops of the Memphis & Charleston Railroad, in which cars and locomotives are to be built, are under contract to be erected here. These will employ between four hundred and five hundred mechanics, and consequently, with their families, will make an increase in population of at least two thousand people. Shops of three other railroads are contracted to be located here, some of them being now under construction.

Five Completed Blast Furnaces,

HAVE A CAPACITY OF 700 TONS PIG IRON PER DAY.

Experts do not hesitate to say that iron can be manufactured more cheaply at Sheffield than at Birmingham, and its river transportation facilities will enable Sheffield iron to reach the principal markets at a saving of from

\$2.00 TO \$2.50 PER TON.

The quality of the iron produced is pronounced by consumers to be the best from any furnaces in the South.

• The following are among the Corporate and Private Enterprises belonging to Sheffield: •

1 The Sheffield Land, Iron & Coal Company, capital \$1,000,000.	14 The Sheffield Mineral Paint Company, \$50,000.
The Sheffield & Birmingham Coal, Iron & Railroad Company, capital \$7,500,000, owners and operators of three blast furnaces, the Sheffield, the Sheffield & Birmingham Railroad, coke ovens and coal mines near Sheffield.	15 The Sheffield Agricultural Works, \$40,000.
The Sheffield Furnace Company, capital \$150,000; assets \$500,000.	16 The Sandstone Quarry Company.
The Lady Ensley Furnace Company, capital \$200,000.	17 The Sheffield Cotton Compress Company, \$60,000.
5 Enterprise Publishing Company, capital \$25,000; publishes daily paper with associated press report and weekly paper.	18 Milar Brothers, Steam Laundry.
6 The Electric Light and Gas Fuel Works, \$25,000.	19 Water Works, already expended \$30,000.
7 The Sheffield Ice Company, capital \$25,000.	20 Sheffield Street Railway Company, \$50,000.
8 The Sheffield Manufacturing Company, \$30,000.	21 Sheffield & Tuscaloosa Street Railway Co., \$50,000.
9 The Sheffield Contracting Company, \$60,000.	22 First National Bank, \$100,000.
10 The Eureka Brick & Lumber Company, \$30,000.	23 Cleveland Hotel Company, \$50,000.
11 The Sheffield Furniture Manufactury.	24 Sheffield Hotel Company, \$120,000.
12 The Howard & Busch Brick Company.	25 East Sheffield Land Company, \$500,000.
13 The Sheffield Bakery and Bottling Works.	26 Hull & Keller's Fern Quarries.
	27 Vorhees' Galvanized Iron Cornice Factory.
	28 The Sheffield Quarries.
	29 Mobile Real Estate Company, \$50,000.
	30 Sheffield Real Estate Company, \$125,000.
	31 Sheffield & Mobile Improvement Company, \$100,000.
	32 Sheffield Stove Works, \$50,000.
	33 Henderson Milling Company, \$100,000.
	34 Globe Iron & Brass Works, \$10,000.
	35 Knowles Knitting Mill, \$30,000.
	36 Sheffield Tapestry Works, \$40,000.
	37 Robbins Machine Shop and Foundry, \$50,000.
	38 Sheffield Cotton Mill, No. 1, \$50,000.
	39 Owen Pink Mixture Company, \$100,000.
	40 Bell Telephone & Telegraph Company.
	41 Fould's Shoe Factory, \$20,000.
	42 Enterprise Wood-working Company, \$30,000.
	43 The Sheffield Harness & Saddlery Company, \$30,000.
	44 Principal Shops of the Sheffield & Birmingham R. R.

Aside from the foregoing, the following are in course of construction and may be considered positive: Principal Shops of the Nashville, Florence & Sheffield Division of the Louisville & Nashville Railroad.

Reasonably certain to be secured in the near future are the following, in regard to which negotiations are pending: A Rolling Mill, a Large Machine Shop, a Cotton Mill, a Large Steel Plant.

GOOD WATER.

Free Public Schools and Churches

Drainage Excellent. Health and Climate Unsurpassed.

Splendid Opening for Men of Push and Energy. —

No Better Point for Profitable Investment.

— NO "OLD FOGY" ELEMENT HERE. —

Sites for Manufacturing Enterprises,

AND FOR FREE PUBLIC SCHOOLS AND CHURCHES,

Donated by Sheffield Land, Iron & Coal Company.

Population January 1st, 1887, 700; August 21st, 1887, by actual count, 2,583. Increase of population, 300 per cent. in eight months, and only limited by accommodations. Present estimate (August, 1888) fully 3,500. Four years ago the site of Sheffield was cultivated as corn and cotton plantations, and was without a railroad. Numerous two and three story brick business houses, and one and two-story dwellings have been, and are being erected. The class of buildings will compare favorably with those in cities of 20,000 inhabitants. Limestone of excellent quality for fluxing iron in unlimited quantities at the furnaces' sites. First-class building stone and brick clay abundant. Rich and extensive deposits of Brown Hematite iron ore within twenty miles, along the lines of two Sheffield railroads, which, by actual results in the furnaces, yield above 50 per cent. metal. Iron of high grade is being made with a pound of coke to a pound of metal—a result never before accomplished with Southern ores and coke. The Sheffield & Birmingham Railroad runs through the heart of the Warrior Coal Fields, which abound in first-class Coking, Steam, Gas and Grate Coal. Timber is abundant and cheap. The Memphis & Charleston Railroad, Sheffield & Birmingham Railroad, and Nashville, Florence and Sheffield branch of the Louisville and Nashville Railroad are now in operation into Sheffield. Surveys of three other railroads have been recently completed to Sheffield, which will soon be the best combined river and railroad transportation center in the South. Every merchant and every established manufacturing enterprise is doing a profitable business. More are needed. For further information address

WM. L. CHAMBERS, Vice-President and Manager,

SHEFFIELD LAND, IRON & COAL COMPANY, - - - SHEFFIELD, ALA.

CONSTRUCTION DEPARTMENT.

EPUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.

*Means machinery is wanted, particulars of which will be found in "Machinery Wanted" columns.

In correspondence relating to matters reported in this paper, it will be a favor if it is stated that the information was gained from the MANUFACTURERS' RECORD.

ALABAMA.

Anniston—Stone-yard.—Robert Watt and James Gray will establish a stone-yard.

Asheville—Dummy Line.—The Asheville & Whitney Railroad Co., previously reported as to build a dummy line from Asheville to Whitney, will probably extend it to Greensport. They are receiving bids for building a bridge across the Canoe river.

Attala—Water Works.—The Alabama Water Works Co. has been incorporated by Obal Christopher, J. Stewart and T. W. Gilmore to build water works.

Bessemer—Flour Mill.—Felix Leonard, of Indiana, has contracted with the Bessemer Land & Improvement Co. to build a flour mill.

Bessemer—Ice Factory.—The Bessemer Ice Manufacturing & Storage Co. will put in new 10 or 15-ton ice machine.*

Birmingham—Printing.—The Evening News Co. contemplate putting a Gross perfecting press in their printing office.

Birmingham—Railroad.—The Birmingham Mineral Railroad will be extended to Huntsville, it is reported.

Birmingham—Railroad.—The Birmingham Mineral Railroad Co. will, it is reported, extend their road to Tuscaloosa at once.

Birmingham—Sash, Door and Blind Factory.—Northern parties contemplate moving their sash, door and blind factory to Birmingham. The East Birmingham Land Co. can give particulars.

Birmingham—Tinware Factory.—The Estes Sove Co. has been incorporated with a capital stock of \$4,000 for the manufacture of tinware, &c.

Birmingham.—It is reported that the Elyton Land Co. are negotiating to secure the removal to Birmingham of several English enterprises.

Birmingham—Brass and Iron Foundry.—Abbott & Co. of Bideford, Devonshire, England, contemplate, it is said, moving their brass and iron foundry to Birmingham.

Birmingham—Stove Works.—The Baxter Stove Manufacturing Co. are enlarging their stove works.

Birmingham—Brewery.—The Birmingham Brewing Co. will shortly let contract for their brewery previously reported.

Brierfield—Coal and Iron.—The property of the Brierfield Coal & Iron Co., consisting of a coke iron furnace, rolling mill and nail works and 32,000 acres of coal and iron land, have been purchased by Thomas F. Kurtz and Thomas E. Peters, trustees for the bondholders, for \$600,000.

Centre—Mining.—The Alabama Mining Co. has been incorporated by W. C. and John Sibley, of Marietta, Ga., and J. A. Walden.

Centre—Iron Works.—The Stonewall Iron Works will be repaired and put in operation, it is reported.

Clay County—Gold Mining.—S. M. Lanier has leased and is developing the George Hobbs gold mines.

Decatur—Street Railway.—The construction of a new street railway is projected.

Florence.—A business men's association will probably be organized to encourage the establishment of new industries.

Florence—New Factories.—It is rumored that factories, aggregating over \$1,000,000 capital, have been secured recently, but no particulars are given.

Fort Payne—Tannery.—John Maxwell, of Boston, Mass., contemplates erecting a large tannery.

Fort Payne—Ice Factory.—The Fort Payne Ice & Storage Co., previously reported, have received and are placing in position the machinery for their ice factory.

Gadsden—Street Railway.—The Alabama Street Car Co. has been incorporated by Obal Christopher, J. S. Stewart and T. W. Gilmore to build a street railway from Gadsden to Attala. The capital stock is \$25,000.

Gadsden—Mineral Lands.—J. H. Wiley is negotiating with English capitalists for the sale of 65,000 and 60,000 acres of coal lands. He is also in correspondence with Northern capitalists for the sale of 3,000 acres of iron ore lands.

Guntersville—Bridge.—The county commissioners will let contract for the construction of a new bridge September 2.

Hamilton—Ginnery.—A cotton ginnery is to be built. A. J. Hamilton is interested.

Huntsville—Bridge.—Contract for building a bridge over the Flint river at Wood's mill has been awarded to the Ohio Bridge Co., of Columbus, O.

Mobile—Gas and Electric-light Plants.—The Alabama Gas, Electric Light & Power Co., lately reported as receiving franchise to erect gas works and an electric-light plant, are negotiating for a site.

Mobile.—M. Cook, of Flint, Michigan, representing a company having a capital stock of \$1,000,000, is investigating the advantages offered for the location of steel works in Mobile to use Cuban ores.

Montgomery.—The Supreme Court has decided that the issuances of bonds by Montgomery and Autauga counties towards building the bridge over the Alabama river, previously reported, is unconstitutional, and the Montgomery, Tuscaloosa & Memphis Railroad Co. have decided to build it themselves.

Montgomery—Publishing.—Alva Fitzpatrick and James J. Crabbe contemplate publishing the Capital.

Montgomery—Publishing.—Horace Hood and J. B. Simpson have commenced the publication of the Journal.

Point Clear.—The Mobile & Eastern Shore Railway & Navigation Co. have purchased the Point Clear Hotel property through J. W. Glennon & Co., of Mobile. They will rebuild the wharf, improve the grounds and build their railroad at once.

Selma—Railroad.—The Cincinnati, Selma & Mobile Railroad will be bonded for \$2,000,000, it is reported, to complete it to Selma.

Sheffield—Horseshoe and Nail Factory.—Northern capitalists will, it is stated, establish a horseshoe and horseshoe nail factory with a capital stock of \$100,000. The Sheffield Land, Iron & Coal Co. can give particulars.

Sheffield.—The organization of a mortgage and investment company with a capi-

tal stock of \$200,000 by New England capitalists is reported. The Sheffield Land, Iron & Coal Co. can give particulars.

Sheffield—Furniture Factory.—A. M. Sargeant, of Haverhill, Mass., contemplates establishing a furniture factory.

Sheffield—Rolling Mill.—It is again reported that the necessary money has been subscribed for building the rolling mill previously mentioned. If true the Sheffield Land, Iron & Coal Co. can give particulars.

Sheffield.—A land and improvement company will probably be organized by Northern capitalists.

Sheffield—Woodenware Factory.—R. H. Hunt and R. B. Gibson, of Chattanooga, Tenn., will erect a woodenware factory. The capital is \$60,000.

Spring Garden—Ginnery.—The Amerson Gin Co., lately reported as to erect a cotton-seed oil mill, are improving their ginnery.

Spring Garden—Water Works.—The Spring Garden Water Works, Land & Improvement Co., previously reported as to build water works, are constructing a stand-pipe system of works.

Talladega—Street Railroad.—A street railroad is projected.

Troy—Fertilizer Works.—The Troy Fertilizer Co. have decided to increase their capital stock to \$150,000, as previously stated. They will probably enlarge works.

Troy—Cigarette Factory.—A cigarette factory will be started, it is rumored.

ARKANSAS.

Arkansas City—Railroad.—The Arkansas & Gulf Railroad Co., previously reported, has been reorganized with W. R. Bergholtz, president, and J. F. O'Shanghnessy, treasurer. Efforts will be made to push the building of the road to Pendleton.

Bentonville—Distillery.—The establishment of a large distillery is talked of.

Hot Springs—Dummy Railroad.—A dummy railroad to Gillen's Springs is projected.

Little Rock—Sewerage System.—The Arkansas Pump & Pipe Co. have contract for constructing 4,000 feet of sewer in the city.

Little Rock—Railroad.—The Memphis & Little Rock Railroad Co., previously reported as contemplating extending their road to Hot Springs, will, it is stated, shortly begin work.

Lonoke—Ginnery.—P. N. Olinghouse is putting additional machinery in his cotton ginnery.

Lonoke—Ginnery.—Mr. Glover is enlarging his cotton ginnery.

Lonoke—Ginnery.—J. B. Chapline is putting additional machinery in his cotton ginnery.

Yellville.—The Buffalo Zinc & Copper Co. will shortly commence the development of their mines.

FLORIDA.

Anthony—Shingle Mill.—J. A. Smith has started a shingle mill.

Arcadia—Canning Factory.—A company has been organized to build and operate a canning factory. J. W. Whidden can give particulars.

Fernandina.—The Fernandina Development Co. has been incorporated by E. N. Dickerson, Jr., C. W. Yulee, J. D. Palmer and S. A. Swann. They have purchased all the unimproved property of the Florida Town Improvement Co. upon Amelia island and will improve and develop same. The authorized capital stock is \$3,000,000.

Jacksonville—Cotton Mill.—Nearly all the stock of the \$100,000 company lately

mentioned as being organized to build a cotton mill has been subscribed for, and work will probably commence soon. C. H. Smith is interested.

Jacksonville—Candy Factory.—A. R. Paxton has purchased the candy factory of Littlefield & Steere. The latter will remove to Knoxville, Tenn., and establish a candy factory.

Key West—Artesian Well.—The Key West Water Co. has let contract for boring the 8-inch artesian well previously reported and building water works to the Shickle, Harrion & Howard Co., of St. Louis, Mo.

Millview—Saw Mill.—W. S. Wittich will, it is reported, build a saw mill with a daily capacity of 25 M feet.

Pensacola—Furniture Factory.—Messrs. Meriweather and Harwell are endeavoring to organize a stock company to establish a furniture factory.

St. Augustine—Railroad.—Samuel Fox, contractor for the St. Augustine & Daytona Railroad, reports that engineers have been secured and work will commence at once.

Tampa.—The city council, previously reported as contemplating putting in an electric fire-alarm system, have adopted the Gomewell system.

Tampa—Phosphate Works.—The Peruvian Phosphate Co., G. R. Boaz, president, will establish the phosphate works previously reported as projected.

Welshon—Brick Works.—Jeffcoat & Brown are building the brick works previously reported.

GEORGIA.

Acworth—Sash, Door and Blind Factory.—Bruce Baker, of Alabama, is considering the erection of a sash, door and blind factory and a planing mill.

Athens—Railroad.—A railroad from Athens to Barnett Shoals is being surveyed.

Atlanta—Sash, Door and Blind Factory.—W. L. Traynham, O. O. Nelson, John L. Hopkins and others have incorporated the Traynham Manufacturing Co. for the manufacture of sashes, doors, blinds, etc. The capital stock is \$20,000.

Augusta—Electric Railroad.—The Augusta Street Railroad Co., controlled by Fleming, Thomas & Co., previously reported as to operate their road by electricity, are now investigating electric roads in other cities.

Augusta—Cotton Factory.—The Augusta Cotton Factory, previously reported as contemplating changing the style of their goods, have shut down to put in new machinery.

Augusta—Dummy Railroad.—The Richmond County Belt Line Railway Co., previously reported, expect to build 10 miles of road; have not purchased any materials yet.

Brunswick—Railroad.—The Turtle River Railroad Co., previously reported as applying for a charter, expect to build a railroad from Brunswick to the new docks of the East Tennessee, Virginia & Georgia Railroad, about 5 miles from Brunswick.

Brunswick—Cold-storage Warehouse.—The erection of a cold-storage warehouse is talked of.

Blythe—Cider Mill.—R. T. Atkinson has erected a cider mill.

Brownsville—Dummy Line.—A dummy line is to be built.

Canton—Mining.—The Chattanooga, Tenn., parties who recently purchased mining property from William Page, have put in new machinery and will soon commence operations.

Cartersville—Publishing.—A stock company has been organized to publish the Express.

MANUFACTURERS' RECORD.

Carrollton—Paper Mill.—L. A. Thomas, previously reported as organizing a stock company to build a paper mill of 6 tons daily capacity, has, with M. R. Wilkinson and E. P. McBurney, chartered the Wilkinson Paper Co., capital \$35,000.

Cedartown—Woolen Mill.—A company has been organized with a capital stock of \$25,000 paid in to build the woolen mill previously reported.

Columbus—Cracker Factory.—A stock company will probably be formed to establish a cracker factory.

Columbus—Electric Railway.—The Columbus Electric Light Co. are putting in the additional machinery previously reported. The Thomson-Houston Electric Co. have the contract.

Columbus—Clothing Factory.—G. J. Peacock is enlarging his clothing factory.

Columbus.—The Columbus Iron Works Co. have amended their charter, increasing the authorized capital stock from \$100,000 to \$200,000, and allowing a wider diversification of their product.

Columbus—Street Railway.—The Columbus Street Railway Co. have decided to extend their line, mentioned in last issue. The cost of the extension will be about \$3,000.

Columbus—Shoe Factory.—Efforts are being made to organize a stock company to establish a shoe factory.

Cordele—Oil Mill and Fertilizer Factory. The Cordele Cotton-seed Oil and Guano Co. have ordered the machinery for their cotton-seed oil mill and fertilizer factory previously reported.

Covington—Terra-cotta Works.—Dr. H. V. Hardwick has organized a stock company to establish terra-cotta works at Almand.

Covington—Ginnery.—A cotton ginnery has been erected.

Covington—Compress.—A stock company is being organized to erect a cotton compress.

Dalton—Bridges.—J. C. Norton will receive bids until September 16 for constructing a bridge over the Conasauga river at Zant's Ford, and until September 17 for bridge over same river at Upper King's bridge.

Dublin—Publishing.—Prof. Allen Allen will publish the *Educational Advance*.

Gainesville—Bagging Factory.—The Gainesville Cotton Manufacturing Co. will put in machinery to manufacture cotton bagging.

Lexington—Brick-yard.—A brick-yard will probably be started. W. M. Howard can give particulars.*

Macon—Brewery.—The Macon Brewing Co., now building a brewery, have amended their charter, making their capital stock not less than \$150,000.

Millen—Oil Mill and Fertilizer Factory. A \$30,000 stock company is being organized to establish a cotton-seed oil mill and fertilizer factory. R. G. Daniel can give information.

Newnan—Wagon Factory.—L. M. Farmer and D. J. Folds have incorporated the Coweta Wagon Co. for the manufacture and repair of wagons, carts, buggies and other vehicles. The capital stock is \$10,000.

Quitman—Publishing.—The Free Press and the Herald have consolidated.

Villa Rica—Wagon Factory.—E. F. Roberts contemplates erecting a carriage and wagon factory.

Villa Rica—Oil Mill.—The Gate City Oil Co., of Atlanta, are building a ginnery.

Waynesboro—Electric-light Plant.—R. J. Edenfield contemplates putting a small incandescent light plant in factory.*

KENTUCKY.

Ashland.—J. A. Haskell, J. H. Poage and others have incorporated the Forest Dale Fire-brick & Tile Works for the manufac-

ture of bricks and tiling and the development of mineral lands. The capital stock is \$40,000.

Ashland—Publishing.—J. M. Miller has commenced the publication of the Democrat.

Cloverport—Natural Gas.—The Mine Center Gas & Manufacturing Co., now boring for gas, will sink a second well.

Corydon—Natural Gas.—Pliny Parker has contracted to sink a natural gas well on the farm of Robert Gibson, near Corydon, for the Trenton Rock Gas & Mining Co., of Louisville.

Georgetown—Laundry.—Charles E. Shey & Co. will start a steam laundry.

Hopkinsville—Water Works.—Contract for the water works previously reported has been awarded to A. H. Kennedy, of Rockport, Ind.

Glasgow—Oil Refinery.—The Kentucky Southern Oil & Gas Co., of Louisville, have offered to erect an oil refinery with a capacity of 1,000 barrels per week if the citizens subscribe for \$18,000 of their bonds, donate a site 600x400 feet, and give certain privileges. The oil company write us that they will erect a refinery for illuminating oils within the next 90 days.*

Hickman.—A Natchez, Miss., company offers to erect water works to cost \$30,000 and furnish the town with water at \$1,200 a year if given the contract.

Louisville—Lithographing.—The Falls City Lithograph Co. will put in additional machinery.

Lexington—Electric Railway.—The Lexington City Railway Co. will petition the next legislature to amend their charter, allowing the use of electricity as a motive power.

Lexington—Publishing.—C. C. Moore contemplates republishing the Blue Grass Blade.

Middlesborough—Miscellaneous.—Inquiries from the following points respecting establishing large works at Middlesborough have been received by the American Association (Limited), office, Knoxville, Tenn., the projectors of Middlesborough: From Western Pennsylvania, factories for making wagon hardware, bolts and nuts, steel rails and county bridges, car wheels and railroad cars; from Eastern Ohio, works for steel wire billets, stoves and cast-iron pipe; from Northern Ohio, works for axles and forgings; from Chicago, transfer of nail works; from New York, plant of two furnaces for making foundry iron; from Eastern Pennsylvania, coal leases.

Nicholasville—Compress Factory.—The name of the company previously reported as organized by F. F. Catlin, J. M. Hadley and others to establish a factory for the manufacture of a hemp, cotton, straw and hay compress, is the Tebow Press Co.

Owensboro—Railroad.—The Vincennes, Oakland City & Owensboro Railroad Co., mentioned in last issue as wanting new bids for the construction of their road, will probably award the contract to S. M. Deane.

Owensboro.—The Pioneer Mineral & Gas Co. previously reported, will contract for the sinking of a gas well.

Paducah—Grain Elevators.—Capitalists have been investigating with a view to erecting grain elevators in Paducah.

Paducah.—Col. Cooley is developing an ochre mine.

Paducah—Paint Factory.—The Mineral Paint Co., previously reported, will shortly let contract for their factory building. It is to be two stories, 25x40 feet.

Russellville—Flour Mill.—Carroll & Barclay, lately reported as to build a 150-barrel flour mill, have let contract to Edward Corbett & Co. of Washington, D. C.

Union City—Water Works, &c.—A Natchez, Miss., company has offered to build water works, sewerage system and furnish 20 arc electric lights to cost about \$200,000,

if given a contract for a number of years at \$5,000 per year.

Winchester—Ice Factory.—Hall & Co., of Nashville, Tenn., have purchased machinery and will erect an ice factory.

LOUISIANA.

Alexandria—Ice Factory.—S. Cullen, lately reported as having purchased the ice factory at Alexandria, will enlarge or put in larger machine next season.

Colfax—Cotton-seed Oil Mill.—C. H. Teal contemplates establishing a cotton-seed oil mill.*

New Orleans—Oil Mill.—The Protection Oil Co., Limited, has been incorporated by Charles B. Pettit, P. J. McMyler, J. W. Gurley, Jr., and others for the manufacture and refining of petroleum and petroleum products; also the manufacture of tanks, cans, barrels, oil cars, etc. The capital stock is \$50,000.

Ramsay—Sugar Mill.—M. & T. Bagley, previously reported as improving their sugar-house, have purchased a sugar mill.

MARYLAND.

Baltimore—Patent Stoppers.—The Bottle Seal Co. have purchased the large factory built by the Baxter Electric Motor Co. and are putting in new machinery.

Baltimore.—The Monumental Coupling Co. has been incorporated by Joseph I. Heusler, John A. Robb, James Young and others for the manufacture of A. W. Rankin's patent pipe coupling. The capital stock authorized is \$1,500,000.

Baltimore.—The Strontia Mineral Springs have been sold to a stock company with O. P. Macgill, president, and Edward B. Bruce, general manager, who will improve and develop the property. The capital stock is \$300,000.

Barton.—The American Coal Co. have resumed operations in the Caledonia mines after building a new wheelhouse, blacksmith shop, plane, etc.

Frederick.—B. Ebert & Sons are erecting a carriage repository.

Oakland—Quarry.—A quarry of red building stone has been discovered and will be developed.

Oakland.—W. W. Fitzgerald will develop a mineral spring on his property near Oakland.

Washington, D. C.—Electric-light Plant. The Electric Light & Power Co. have received the contract, lately mentioned, of lighting part of the city with incandescent lights. They will erect a plant.

Washington, D. C.—Cable Road.—The Washington & Georgetown Railroad Co. will shortly commence the changing of their street railway to a cable road, as previously reported.

Washington, D. C.—The Washington & Tennallytown Railroad Co., previously reported as to operate their road by electricity, have, it is said, purchased a site for their power house.

MISSISSIPPI.

Enterprise—Hosiery Factory.—The Stone-wall Manufacturing Co., previously reported as putting new machinery in their cotton mill, will manufacture hosiery.

Greenville.—The Delta Insurance Co. has been organized with C. M. Williams, president; H. T. Ireys, vice-president, and M. J. Welborn, secretary.

Logtown—Saw Mill.—Henry Weston is putting additional machinery in his saw mill.

Meridian—Bridges.—W. H. Curtis will receive proposals until September 2 for rebuilding the bridges over Bucktuna creek, Guans creek and Nannobie creek.

Meridian—Publishing.—J. S. Evans, Jr., will publish the "Call."

Natchez—Furniture Factory.—August Boehnke, of Brookhaven, contemplates moving his furniture factory to Natchez.

Port Gibson—Cotton Mill.—V. & A. Meyer & Co., of New Orleans, La., have

purchased the Port Gibson Cotton Mills for \$5,000, subject to a mortgage for \$20,000. They intend organizing a new company to operate the mill.

Vicksburg—Manufacturing.—Henry L. Blake, Eugene Martin, John D. Gilland and Thomas M. Smedes have incorporated the Phoenix Manufacturing Co. to build and operate mills, factories, railroads and vessels. The capital stock is \$60,000.

Vicksburg—Electric-light Plant.—The Hill City Electric-light Co. have commenced the erection of the incandescent electric-light plant previously reported.

NORTH CAROLINA.

Asheville—Street Railway.—The Asheville Fast Line & Suburban Street Railway Co. will build an electric railway, but have not as yet decided when they will commence work.

Charlotte—Electric-light Plant.—The Charlotte Gas Light Co. have, it is reported, let contract for their electric-light plant previously mentioned.

Gap Creek—Iron Mine.—R. Eames, Jr., is reopening the Gap Creek iron mine.

Lexington—Wood and Iron Working Shops.—C. M. Thompson has commenced the erection of a sash, door and blind factory 45x100 feet, a machine shop 30x50 feet, a foundry 30x50 feet, a dryhouse and an engine and boiler house.

Lexington—Grist Mill.—M. K. Gray is erecting a grist mill on his farm near Lexington.

Lexington—Corn Mill.—Grimes Bros., lately reported as improving flour mill, will also soon put in roller machinery to make 500 bus. corn meal daily.

Lexington—Soap Factory.—H. J. Berrier contemplates starting a small soap factory.*

Milton—Mica Mine.—F. N. M. Search, of Philadelphia, Pa., has leased the mica mine on the property of William Irvine under the condition that he shall begin work within 90 days.

Monroe—Railroad.—Contracts for grading the Georgia, Carolina & Northern Railroad to the Savannah river will be let shortly, it is reported.

Mt. Airy—Spoke and Handle Factory.—H. W. Reed contemplates moving his spoke and handle factory from Dalton to Mt. Airy.

Murphy—Sash and Door Factory.—Gilbert Brandreth will establish a sash and door factory.

Murphy—Saw Mill.—Paddock, Lane & Co. will build a lumber mill.

New Berne.—The Farmers' Transportation Co. has been incorporated by D. L. Roberts, L. H. Cutler and others for transportation purposes. The capital stock is \$11,600.

Oxford.—R. V. Smith will erect a prize tobacco warehouse.

Oxford.—T. D. Clement contemplates changing his storage warehouse to prize tobacco warehouse.

Oxford.—W. C. Reed has purchased a prize tobacco warehouse and will put in steam fixtures and operate.

Watauga County—Iron Mine.—R. F. Hoke is opening the Bullruffin Iron Mine near Cook's Gap.

Walnut Cove.—A company has been organized to test the Dan river field for coal, gas and oil.

Wilmington—Woodenware Factory.—The Industrial Manufacturing Co. have purchased the Clarendon Iron Works for \$7,100, and will, it is stated, put in machinery for the manufacture of baskets and woodenware.

Wilmington.—The Carolina Insurance Co. has been organized with G. W. Williams, president; D. L. Gorge, vice-president, and M. S. Willard, secretary.

Wilmington—Rolling Mill.—The Chamber of Industry is corresponding with parties who contemplate building an iron roll-

ing mill, and not a roller flour mill as reported.

SOUTH CAROLINA.

Camden—Cotton Mill.—The capital stock of the company previously reported as being organized to build a cotton mill is to be \$100,000. H. G. Garrison can give information.

Charleston—Bag Factory.—The Royal Bag Manufacturing Co. are putting in the new machinery previously reported, doubling their capacity.

Columbia—Oil Refinery.—H. H. Newton, of Bennettsville; D. A. Tompkins, of Charlotte, N. C.; R. E. Hill, of Abbeville, and others, have chartered the Union Refining Co. with a capital stock of \$30,000 to establish the oil refinery previously reported. A committee is investigating the advantages of Charleston and Columbia for the location of the refinery.

Gaffney City—Cotton Mill.—A stock company is being organized to build a cotton mill. \$43,000 has been subscribed, it is stated.

Georgetown—Jetty Work.—D. V. Howell has contract for work on the jetties and is making arrangements to secure scows, derricks, &c.

Georgetown—Ice Factory.—H. N. Morris, of Cincinnati, Ohio, is endeavoring to organize a stock company to start an ice factory.

Mullen—Grist Mill and Gin.—W. H. Daniels will erect a grist mill and cotton gin.

Pregnalls—Railroad.—The Walterboro & Yemassee Railroad Co. will be organized, it is reported, to build a railroad to Walterborough. R. C. Baker, of Eutawville, can probably give information.

Richburg—Cotton Mill.—The Fishing Creek Manufacturing Co. will substitute new and improved machinery and purchase additional spindles for their cotton mill.

Summerton—Oil Mill.—Thomas Wilson is president, and S. R. Cole, secretary, of the Summerton Cotton-seed Oil & Manufacturing Co., previously reported as organized with a capital stock of \$20,000 to erect a cotton-seed oil mill. Work has commenced on the mill.

Union—Water Works.—Propositions for establishing water works are wanted. W. T. Graham can give particulars.

TENNESSEE.

Brownsville—Compress.—The foundation is being laid for the compress previously reported to be built. E. C. Bush is superintendent.

Chattanooga—Factories.—It is reported that two factories will be located at Summit City, a suburb of Chattanooga. J. A. Williams can give particulars.

Chattanooga—Basket Factory.—The Chattanooga Basket & Package Co. are enlarging their factory, erecting an addition, two stories, 180x60 feet.

Chattanooga—Coal Mining and Dummy Line.—J. B. Goode, of Dallas, Texas, previously reported as having purchased 19,000 acres of coal land near Chattanooga for development, writes that he will open 10 mines, build dummy line, &c., and will require about \$200,000 of machinery, rails, &c.

Chattanooga—Machine Works.—The Buss Machine Works, of Grand Rapids, Mich., have established a branch store, and not a branch factory, as lately reported.

Chattanooga—J. B. Pound, W. M. Bearden, F. H. Bayley and others have chartered the Chattanooga Novelty Works for the manufacture of a patent flour receptacle. The capital stock will be \$50,000.

Chattanooga—Paint Works.—The Chattanooga Paint Co. are erecting an addition 45x50 feet to their works.

Cowan—Railroad.—The Tennessee Coal, Iron & Railroad Co. are building a railroad from their furnace to a rock quarry.

Fayetteville—Railroad.—Work is to be

commenced at once on the Cincinnati, Alabama & Atlantic Railroad, previously reported.

Franklin—Electric-light Plant.—The board of aldermen, lately reported as investigating with a view to erecting an electric-light plant, have decided to light the town by electricity. A committee has been appointed to make contracts.

Iron City.—A chalybeate spring has been discovered and will be improved.

Iron City—Gas and Oil Wells.—H. P. Seay is organizing the company previously reported to bore for natural gas and oil.

Jellico—Coal Mine.—The Williamsburg & Jellico Coal Co. have opened a vein of bituminous coal 57 inches thick.

Jonesboro.—It is reported that an English company has purchased the Embreeville iron property, embracing an old furnace and 50,000 acres of farming, mineral and timber land.

Knoxville.—W. J. Savage & Co., lately mentioned as to establish a machine shop, have organized the Knoxville Mill Supply & Machine Co.

Knoxville—Spoke Factory.—The Coffey Spoke & Felloc Co., of Burnside, Ky., are considering the moving of their spoke and felloc factory, employing 30 hands, to Knoxville.

Knoxville—Candy Factory.—Littlefield & Steere, of Jacksonville, Fla., will establish a candy factory.

Knoxville—Electric Railway.—The Fountain Head Railway Co. have been granted right of way to build an electric or horse car line.

Knoxville—Electric Railway.—The Knoxville Street Railway Co. have been granted right of way to erect poles and string wires for the operation of their street railway by electricity.

Memphis—Box Factory and Saw Mill.—The Anderson-Tally Co., of Detroit, Mich., have purchased 9½ acres of land on Big creek, and will erect a box factory and saw mill.

Memphis—Iron Works.—The Chicasaw Iron Works have recently erected new works at a cost of \$35,000.

Morristown—Dummy Line.—It is rumored that the Tate Springs property has been purchased by Atlanta, Ga., capitalists, who will build a dummy line from Morris town to Tate Springs, 12 miles.

Nashville—Electric Railway.—The Main Street & Lischey Avenue Street Railway Co. and the Nashville & Edgefield Street Railway, previously reported as to change to electric roads, will consolidate.

Nashville—Coffer-dam.—Holmes & Wilk, mentioned last week as likely to secure contract at \$10,810 for building coffer-dam at lock No. 1, in Cumberland river, have received contract.

Nashville—Planing Mill.—The Edgefield & Nashville Manufacturing Co. are enlarging their planing mill.

Nashville—Railroad.—J. T. Rhea, Lewis T. Baxter, John G. Houston, E. C. Lewis and others have applied for a charter for the Nashville Northern Railroad Co. to build a railroad.

Nashville—Cracker Factory.—A. E. Heighway has purchased the property of the Grubbs Cracker Co.

Otto—Saw Mill.—Chilton & Mathney have started a saw mill and wood-working factory.

Tennessee—Railroad.—Kilpatrick & Co., of Bridgeport, Ala., will build a narrow-gauge railroad to Dovan's cove, 12 miles.

Tulahoma—Railroad.—Work will soon begin on the Cincinnati, Alabama & Atlantic Railroad, lately mentioned.

TEXAS.

Austin—Artesian Well.—Machinery has been ordered for boring the eight-inch artesian well previously reported.

Austin—Straw Paper Mill.—Jacob Stern contemplates starting a straw paper mill.*

Austin.—The contract for constructing the viaduct over the tracks of the Missouri, Kansas & Texas Railroad, mentioned in last issue, has been awarded to Wood & Bradburn. The cost will be about \$24,000.

Baird—Elevator.—The erection of a grain elevator is projected.

Beaumont—Boiler Works.—Mayor & Flagole, of Bay City, Mich., offer to move their boiler works to Beaumont if given inducements.

Beaumont—Factory.—A party has offered to erect a large factory if given a bonus.

Beaumont.—V. Weiss and others are organizing a board of trade.

Bonham.—The Commissioners' Court has been petitioned to issue bonds to the amount of \$25,000 for the improvement of the county roads.

Brady—Railroad.—The Fort Worth & Rio Grande Railroad (office, Fort Worth) will probably be extended to Brady.

Brownsville.—The city has issued \$15,000 of improvement bonds.

Bryan—Water Works.—The time for receiving bids for building the water works previously reported has been extended to September 10. Address H. B. Carr.

Cisco—Broom Factory.—W. W. Noel has started a broom factory.

Clarendon—Stone Quarry.—A building stone quarry has been recently opened near Clarendon.

Cleburne—Machine Shops.—A \$25,000 stock company has been organized, it is reported, to build machine shops.

Cuero—Water Works.—H. F. Hill, mayor, will receive proposals until September 15 for the construction of the water works lately reported.

Dallas—Bridge.—Contract has been let for the building of another bridge across the Trinity river.

Dallas—Flour Mill.—The Todd Milling Co., previously reported as incorporated to operate the Todd Flour Mills, have increased their capital stock from \$100,000 to \$400,000.

Dallas—Publishing.—The Promoters Co. has been incorporated by Henry Exall, W. Koppel and others to publish the Texas Guide. The capital stock is \$5,000.

Del Rio—Ochre Mining.—James Friedlander and S. H. Berton, representing Chicago and Galveston capitalists, have purchased ochre lands and ordered machinery for developing.

Denison—Sewerage System.—The city secretary will receive bids for constructing the sewerage system mentioned in last issue.

El Paso—Car Shops.—The Galveston, Harrisburg & San Antonio Railway Co. (office, Houston) are putting new machinery in their car shops.

Fort Worth—Stove Works.—M. A. McLaughlin has let contract for the erection of the buildings for the stove works mentioned in last issue.*

Gainesville—Bridges.—Contract has been let for the building of two iron bridges to cost \$3,699, one across Elm and the other across Clear creek.

Galveston—Wharves.—The Galveston Wharf Co. are enlarging and improving their wharves.

Galveston—Artesian Well.—The Galveston Artesian Well Co., previously reported, have sunk an artesian well having an estimated flow of 500,000 gallons daily.

Galveston—Gas Works.—The Galveston Gas Co. contemplate putting in a plant costing about \$100,000 for the manufacture of water gas.

Georgetown—Chair Factory.—The First Texas Furniture Co. contemplate enlarging their chair factory.

Gordon—Ginnery.—J. Able & Co., previously reported as erecting a roller flour mill, are also erecting a cotton ginnery.

Houston—Artesian Well.—G. Warnecke has contract for sinking the artesian well for the Houston Water Works Co. mentioned in last issue.

Houston—Publishing.—Frank P. Cravens will publish a weekly paper to be called Town Topics.

Houston—Watch Factory.—Sweeney, Coombs & Fredericks are organizing a \$100,000 stock company to establish a watch factory.

Houston—Saw Mills.—M. Butler, previously reported as receiving contract to pave certain streets with bois d'arc block, will erect a number of saw mills.

Houston—Barrel Factory.—The Houston Barrel & Cistern Co., previously reported as chartered to manufacture barrels and cisterns, are receiving and erecting their machinery.

Houston—Soap Factory.—C. Bender and C. S. Benedict, previously reported as to establish a soap factory, have, with W. G. Halsey, of Galveston, M. B. Richardson and others incorporated the Texas Star & Soap Co., capital \$20,000, for the manufacture of soap.

Houston—Electric Railway.—The Houston Belt & Magnolia Park Railway Co. have started preliminary work on their electrical railroad lately mentioned.

Jefferson—Bridge.—W. F. Jones will receive proposals until August 27 for the construction of an iron cable or wooden bridge across Big Cypress bayou.

Jefferson—Woolen Mill.—Herbert Rives and S. B. Webster, previously reported as contemplating organizing a stock company to enlarge and operate their woolen mill, have, with J. H. Bemis and W. B. Atkins, incorporated the Jefferson Woolen Mills Co., capital stock \$25,000.

Laredo.—An iron bridge 345 feet long will be built. Bids are invited to September 17 by J. M. Rodriguez, county judge.

Lovelady—Saw and Grist Mill.—C. B. Moon and J. B. McNeil will build the saw and grist mill previously mentioned.

Marshall—Rolling Mill.—Eastern capitalists have offered to erect the rolling mill lately mentioned at a cost of \$150,000 if donated 20 acres of land and \$15,000. The proposition will probably be accepted.

Putnam—Gin and Grist Mill.—A gin and grist mill are being built. J. M. Toy can give particulars.

Mexia—Oil Mill.—A Memphis, Tenn., party contemplates erecting a cotton-seed oil mill.

Moscow—Dry-kiln and Planing Mill.—T. L. Hackney, reported in last issue as erecting a saw mill near Moscow is also building a dry-kiln and planing mill.

Randolph—Saw Mill and Gin.—T. J. Aikin is erecting a saw mill and cotton ginnery.

Sherman—Medicine Factory.—The N. C. Simmons, Jr., Medicine Co., of Grayson county, has been incorporated by N. Caud, J. J. Simmons, of Dallas, N. M. Lee and others with a capital stock of \$10,000.

Taylor—Artesian Well.—The Artesian Well Co. will probably contract with Fowler & McGulvrey, of Waco, for the sinking of their artesian well previously reported.

Terrell—Hardware Factory.—The Gaffney Hardware Co. has been incorporated by Eli Gaffney and others for the manufacture of hardware.

Tyler—Railroad.—R. B. Hubbard, J. B. Douglas, C. T. Bonner, A. L. Clark and others have incorporated the Alexandria, Tyler & Northwestern Railway Co. to build a railroad from a point on the Sabine river in Sabine county to a point on the Fort Worth & Denver Railway in Wise county.

Tyler—Wagon Factory.—The erection of a wagon factory is being agitated.

Victoria—Ice Factory.—An ice factory will be built in connection with the electric plant previously reported.

MANUFACTURERS' RECORD.

VIRGINIA.

Alexandria—Electric-light Plant.—The Schuyler Electric Co., previously reported as receiving contract to erect an electric-light plant for the city, are erecting the machinery.

Alexandria.—The Blue Ridge Park Association has been chartered with J. W. Douglass, of Washington, D. C., president; S. M. Allen, of Boston, Mass., vice-president, and John Bowles, secretary. The authorized capital stock is \$5,000,000.

Alexandria—Electric.—The Richter Electric Construction Co. has been incorporated with Charles Richter, of Camden, N. J., president; H. L. White, of Somerville, Mass., treasurer, and A. G. Gray, of Brooklyn, N. Y., secretary. The capital stock authorized is \$1,000,000.

Buena Vista—Tannery.—Appold Bros. are repairing their tannery.

Danville—Electric Railway.—The Danville Electric Railway Co. will improve and probably extend their line.

Fincastle—Iron.—W. B. Bean and J. D. Ryals will develop the Big Hill iron mines.

Luray—Manganese Mine.—Broaddus & Newman will develop a manganese mine.

Lynchburg—Pipe Works.—The Glasmorgan Co. write that the rumor that they contemplated building pipe works at West Lynchburg was wrong.

Newport News.—The Newport News Light & Water Co. has been chartered with C. B. Orcutt, president, and Edward St. John, secretary. The capital stock is to be not less than \$30,000 nor more than \$150,000.

Norfolk—Barrel Factory.—The Standard Truck Barrel Co. has been incorporated at Salisbury, Md., with E. E. Jackson, president; J. J. Morris, vice-president, and Thomas Perry, secretary, to establish a barrel factory in Norfolk.

Petersburg—Tobacco Factory.—David Dunlop is enlarging his tobacco factory.

Radford—Sturdevan & French, previously reported as to establish planing mill and sash factory, will also start brick-yard.

Radford—Grading.—The Radford Land & Improvement Co. and the West Radford Land Co. have let contract for grading their properties.

Radford—Railroad.—George T. Mills has contract to build the 2-mile belt railroad for the Norfolk & Western Railroad Co. (office, Roanoke), previously reported.

Radford—Pipe Works.—A site has been selected for the pipe works previously reported. They are to have a daily capacity of 40 tons, and employ about 250 hands. The Radford Land & Improvement Co. can give particulars.

Roanoke—Electric-light Plant.—The Roanoke Electric Light & Power Co. will probably enlarge their plant.

Roanoke—Bucket Factory.—It is reported that a bucket factory will be established.

Roanoke—Chemical Works.—The Virginia Dare Chemical Co. has been organized by L. H. Cocke, C. R. Wertz, S. M. Dawson and others for the manufacture of chemicals. The capital stock is to be not less than \$5,000 nor more than \$50,000.

Roanoke—Publishing.—Mr. Bibb has commenced the publication of the *Gazette*.

Roanoke—Wagon Factory.—P. S. Wise, of New Market, Va., is prospecting with a view to moving his wagon factory to Roanoke.

Rockbridge County—Furnace.—A small smelting furnace is being erected at the tin mines to test the ore.

Staunton—Coal Mine.—Harry Wegner and Thomas Whelan are developing anthracite coal at the foot of Crawford mountain, 15 miles northwest of Staunton.

Staunton—Railroad.—The Staunton & West Augusta Railroad Co., reported in last issue, have let contract for 25 miles of road to the Keating Railroad Co., of Read-

ing, Pa. R. N. Pool, of Staunton, can give particulars.

Virginia.—A mining company has been organized with James C. Hawk, of Kansas City, Mo., president; J. P. Woodhouse, of same place, vice-president, and W. S. Turner, of Elkton, Pa., secretary, to develop tin and other minerals. They have a tract of 10,000 acres and a capital stock of \$2,000,000.

Wise C. H.—New Town.—A new town to be called St. Paul is being built near Wise C. H.

WEST VIRGINIA.

Alaska—Bridge.—An iron bridge will probably be built across Patterson's creek.

Benwood—Pipe Line and Refinery.—The Standard Oil Co. are erecting a large oil refinery, and will construct a pipe line from the Nineveh oil field in Greene county, Pa., to Benwood.

Bramwell C. H.—Knitting Factory.—The erection of a knitting factory is talked of.

Independence—Furnace.—The capacity of the Irondale furnace, F. Nemegyer, proprietor, after the improvements previously reported are completed, will be increased from 25 to 50 tons daily.

Lewisburg—Cold Storage.—The Greenbrier Creamery Co. will add cold storage.*

Morgantown—Tank Factory.—Thomas McDermott will move his tank factory from Waynesburg to Morgantown.

Morgantown—A Philadelphia company is preparing to sink an oil well on the farm of Eli White.

Piedmont—Machine Shops.—It is rumored that the West Virginia Central & Pittsburg Railroad Co. will purchase Hendrickson's island, on which to erect machine shops.

Putnam County—Oil Wells.—Two oil wells are being sunk.

Shanghai—Artesian Well.—Mr. Stoner has sunk an artesian well near Shanghai having a flow of 1,200 gallons per hour. The water will probably be piped to Shanghai.

St. Albans—Railroad.—The company who will build the railroad from St. Albans to the Forks of Coal have asked for a subscription of \$23,000 from Jefferson and Washington districts. The town of St. Albans will vote September 7 on subscribing \$7,000.

Wheeling—Crematory.—The city council has been requested to appropriate \$6,000 for the erection of a new crematory.

Wheeling—Nail Works.—It is reported that the puddling department of the Belmont Nail Co. will commence work shortly.

BURNED.

Bostwick, Fla.—The saw mills of Webster & Davis, near Bostwick.

Menlo, Ga.—The saw and planing mill of T. P. Batten.

New Cumberland, W. Va.—The Union Fire-brick Works; loss \$10,000.

Norfolk, Va.—The Norfolk Cotton & Knitting Factory; loss on machinery about \$5,000.

Saratoga, Ark.—The steam mill of Mr. Grounds damaged by a boiler explosion.

THE Austin (Texas) Statesman recently appeared in a new and attractive dress. No State in the Union displays more energy and thoroughness in its newspaper work than Texas, and the Statesman is among the most energetic and thorough of these papers. In no way can we more clearly express our opinion of the Texas press, than to say that it has practically made the State what it is. A city represented by such a live paper as the Statesman now is, cannot know any word but "forward."

Building Notes.

Athens, Ala.—The Limestone County Farmers' Warehouse Co. has been chartered to build a warehouse. The capital stock is \$10,000.

Atlanta, Ga.—A. P. Woodward, R. J. Griffin, W. W. Haskell and others have incorporated a building and loan association to be known as the Penn Loan Relief Society.

Attala, Ala.—Samuel Dillard and J. S. Stewart will erect a three-story brick building, 125x50 feet, on Fifth avenue.

Augusta, Ga.—The Augusta Orphan Asylum, reported in last issue as burned, will be rebuilt at once. It was a five-story structure, and cost \$138,635.

Baltimore, Md.—The report that W. C. Frederick had prepared plans for a \$10,000 hotel is premature.

Baltimore, Md.—George Banneke has contract for the erection of the library building for the Johns Hopkins University. It is to be two stories, 40x60 feet, and to cost \$20,000. W. A. & J. T. Wilson prepared plans.

Baltimore, Md.—A new edifice is being erected for the South Baltimore Methodist Protestant Church.

Baltimore, Md.—Mrs. M. Forbes will erect a four-story dwelling, 25x100 feet, to cost \$20,000—A. A. Reinhart is the architect; the Hungaria Society, a building two stories, 45x80 feet, to cost \$15,000; F. D. Morrison, a residence two stories, 50x60 feet, to cost \$15,000; the Abell estate will improve one of their buildings on Fayette street at a cost of \$6,000; Charles Williams has plans for the remodeling of a building on Howard street at a cost of \$10,000.

Baltimore, Md.—A site has been purchased for the new building for English-German school, No. 5, previously reported. The amount appropriated is \$25,000.

Baltimore, Md.—Grammar school No. 8, for the erection of which bids will be received by J. T. Oster until August 27, as reported in last issue, will be two stories, 55x19 feet, and have the Smead process of heating and ventilation. The appropriation is \$21,000.

Baltimore, Md.—F. T. Gallagher has received the contract to build primary school No. 13, lately mentioned. The cost will be about \$21,000.

Bartow, Fla.—Hotel.—A stock company is being organized to build a hotel.

Birmingham, Ala.—Figh & Williams, lately mentioned, have received contract to erect the new Paul Hayne school building.

Birmingham, Ala.—B. Gilreath will erect a three-story brick store to cost \$15,000 and a three-story brick store to cost \$10,000, both on Third avenue, and the Gilreath Construction Co., a \$15,000 brick store on First avenue; Swem & Thomas are erecting a three-story brick building on Eighteenth street.

Brunswick, Ga.—The Brunswick & Western Railroad Co. have built an extension to their wharves.

Brunswick, Ga.—Coney & Parker contemplate building an extension to their wharves.

Chalybeate Springs, Ga.—Hotel.—Mr. Grant has purchased the Chalybeate Springs property, and will rebuild and improve the property at a cost of \$50,000.

Charleston, S. C.—The trustees of the Roper Hospital have let contract for the repairs to that building, lately mentioned, to Mr. Jenkins for \$6,000. Simons & Huger are the architects.

Chattanooga, Tenn.—S. W. Divine will build a \$10,000 brick residence; Rev. T. H. McCallie, a \$10,000 brick residence, and T. H. Payne, a \$6,000 frame residence. W. H. Floyd is the architect.

Chattanooga, Tenn.—Hotel.—A \$100,000 stock company has been organized, it is reported, to build a hotel on Mission Ridge.

Chattanooga, Tenn.—A normal school will probably be built at Summit City, a suburb of Chattanooga.

Chipley, Fla.—Hotel.—A stock company is being organized to build a hotel.

Cisco, Texas.—Depot.—The Texas & Pacific Railroad Co. (office, Dallas), and the Houston & Texas Central Railroad Co. (office, Houston), will probably rebuild the union depot.

Columbia, Ala.—A branch of the Interstate Building & Loan Association will be organized.

Columbus, Ga.—Hotel.—A stock company will probably be organized to build a hotel.

Covington, Ky.—Contract for the new market-house previously reported will be let shortly.

Dayton, Tenn.—A branch of the American Building, Loan & Investment Association has been organized.

De Land, Fla.—The report that Robert H. Coleman, of Cornwall, Pa., would build a \$100,000 residence is said by Mr. Coleman to be an error.

Eastman, Ga.—A branch of the Interstate Building & Loan Association has been organized.

Fairmont, W. Va.—U. A. Clayton & Co. have the contract for the erection of the 50 houses previously reported at Brierton for the Upper Monongahela Coal & Coke Co.

Fernandina, Fla.—A branch of the American Building & Loan Association has been organized with W. A. Mahoney, president, and R. C. Cooley, secretary.

Florence, Ala.—Dr. J. M. Garlington and W. P. Campbell have commenced the erection of a business block on Tennessee street.

Florence, Ala.—A branch of the American Building, Loan & Tortoise Savings Association has been organized with George P. Jones, president; R. L. Bliss, vice-president, and A. L. Ellett, secretary.

Fort Payne, Ala.—A. E. Dickinson, of Holyoke, Mass., will erect a brick block, two stories high. Smith & Spencer have the contract.

Fort Smith, Ark.—A branch of the American Building & Loan Association has been organized with J. W. Bocage, president, and R. H. M. Mills, secretary.

Gainesville, Ga.—Gandler & Williams will erect a business house.

Georgetown, Ky.—The Baptist church will be remodeled at a cost of \$5,000.

Georgetown, Ky.—A branch of the Southern Building & Loan Association has been organized with W. C. Owens, president, and Warren Clayton, secretary.

Gold Hill, Ala.—The New Hope Alliance have chartered a \$5,000 stock company to build a warehouse.

Greenville, Miss.—Hotel.—The St. Charles Hotel is being remodeled.

Guntersville, Ala.—A new church will be built for the Christian church. J. G. Winston, Jr., can give information.

Hagerstown, Md.—The Standard Oil Co. contemplate erecting a large storage warehouse.

Hillsboro, Tex.—The county commissioners have decided to build the new courthouse previously reported. Judge Overton can give particulars.

Hot Springs, Ark.—Jos. Longinotti, of Texarkana, Ark., previously reported as to erect a \$40,000 building, will put in steam heater.

Jacksonville, Tex.—Depot.—The International & Great Northern Railroad Co. (office Palestine) will rebuild their depot recently burned.

Jellico, Tenn.—The Citizens' Bank will erect bank building to cost about \$10,000.

Knoxville, Tenn.—Hotel.—The Knoxville Hotel Co. have purchased a site, 200x300 feet, corner Main and Gay streets, for \$40,000, for their hotel previously reported.

Knoxville, Tenn.—A company has been organized, it is reported, to improve suburban land and build houses.

Knoxville, Tenn.—F. Miller will build 3 three-story business houses on Prince street, and Scott & Dempster, a two-story warehouse 50x80 feet. Baumann Bros. are architects for both.

Knoxville, Tenn.—A new school building will be erected at West Knoxville.

Laredo, Texas.—Jas. Munhy, architect, wants bids on four two-story brick buildings and iron and plate-glass fronts.

Lonaconing, Md.—The school commissioners have let contract for the erection of a new school building to John Story at \$9,350.

Loudon, Tenn.—Hotel.—Baumann Bros., Knoxville, are preparing the plans for the three-story hotel reported in last issue as to be built by E. P. McQueen and others. It is to be 60x96 feet.

Louisville, Ky.—John H. Brand will build a residence to cost \$13,000.

Ludlow, Ky.—The Methodists have contracted for the erection of a new edifice to cost about \$6,000.

Macon, Ga.—The Macon Blind Asylum will be enlarged at a cost of \$15,000.

Marshall, Texas.—A party from Shreveport, La., offers to build a city hall, market-house and fire-engine house if donated a site and other privileges.

Mason, Texas.—W. E. Wheeler will erect a two-story stone hall and office building 50x100 feet.

Memphis, Tenn.—J. A. Bailey will erect a two-story dwelling on Lauderdale street to cost \$10,000. E. C. Jones is the architect.

Meridian, Miss.—A. J. Peck will erect a three-story brick building 30x85 feet on Fifth street. G. M. Torgerson is the architect.

Memphis, Tenn.—R. F. Tate will build a \$10,000 residence. C. H. Maydwell is the architect.

Memphis, Tenn.—George Schmalzreed is erecting a four-story business house to cost \$35,000.

Meridian, Miss.—A. Threefoot & Sons will erect a three-story warehouse on Twenty-third street and a brick building 34x70 feet on Fifth street.

Meridian, Miss.—Mr. Ormond will erect a three-story brick building on Fourth street. A. W. Maas is architect, and Ratzburgh & Platt have the contract.

Monroe, N. C.—A church will be built by the Lutherans. Rev. J. F. Moser can give particulars.

Murphy, N. C.—Gilbert Brandreth is building 15 cottages.

Nashville, Tenn.—Hotel.—The Maxwell House is being improved at a cost of about \$25,000.

Nashville, Tenn.—The Home Building & Loan Association has been chartered by C. H. Sanders, P. G. Dismukes, L. T. Baxter and others.

Nashville, Tenn.—Hotel.—The Maxwell House is to be enlarged and improved at a cost of about \$30,000.

Oakland, Md.—Hotel.—Washington, D. C. capitalists have recently purchased the Porter farm and will establish a summer resort, building a hotel. J. M. Jarboe has contract for the hotel.

Ocala, Fla.—A new cotton warehouse is being built.

Orlando, Fla.—A new edifice will be built for St. Joseph's Catholic church.

Owensboro, Ky.—Hotel.—The company previously reported as purchasing the Tar Springs property and to build a hotel and cottages, is the Tar & White Sulphur Springs Co., capital \$100,000. They intend making extensive improvements.

Parkersburg, W. Va.—G. E. Smith has awarded a contract to erect a building on Market street to Hicks & Calderwood, of Charleston. The cost will be about \$30,000.

Pensacola, Fla.—E. M. Biedleman will build a brick warehouse 60x80 feet.

Pensacola, Fla.—The building previously reported as to be put up by the I. O. Odd Fellows will cost \$8,000 to \$10,000. Thos. C. Watson can give particulars.

Pine Bluff, Ark.—The Bank of Pine Bluff is remodeling a building to be used as a bank.

Pond Gap, Va.—Hotel.—Prof. R. N. Pool, of Staunton, and a company of Washington (D. C.) capitalists have purchased the Augusta White Sulphur Springs, and will build a hotel and improve the property.

Richmond, Va.—Herman Schmidt will erect a natatorium building 70x112 feet to cost \$8,000. C. Ruehrmund prepared plans.

Richmond, Va.—Bristow & Pearce have received contract at \$31,235 for building market-house.

Sheffield, Ala.—Hotel.—It is reported that a Northern party will purchase the Sheffield Hotel, now in course of erection, and complete it.

Sheffield, Ala.—Dr. A. G. Haywood has secured 22 acres of ground for his female college previously reported. The cost of the buildings is estimated at \$40,000.

Sheffield, Ala.—A New York capitalist has purchased 30 lots, it is reported, on which he will erect buildings.

Sheffield, Ala.—Dr. A. G. Haygood has let contract for the erection of a fine residence, and W. L. Chambers has let contract for his residence previously reported.

Shreveport, La.—Caddo parish has voted to issue the \$40,000 in bonds to build the new courthouse previously reported.

Springfield, N. C.—Hotel.—O. S. Crouch will enlarge his hotel.

Springfield, N. C.—The People's Deposit Bank are erecting a bank building.

Springfield, N. C.—A new church is being built for the Baptists.

Staunton, Va.—Hotel.—A stock company will be chartered with a capital stock of \$200,000 to build a hotel.

Sewanee Springs, Fla.—Hotels.—A stock company with Andrew Handley, of Savannah, president, have recently secured the Suwanee Springs property and erected two hotels and 20 cottages at a cost of \$75,000.

Thorp Springs, Tex.—The Christian church have decided to erect the Add Ran University at Thorp Springs. H. M. Bandy can give information.

Tuscaloosa, Ala.—W. W. Thompson has received contract for building city hall at \$20,000.

Uptonville, Ky.—A new church will be built by the Methodists.

Vernon, Texas.—Hotel.—The Texas Investment Co. will erect a brick hotel to cost \$20,000.

Vernon, Texas.—T. P. Lissman has commenced the erection of a brick building 60x120 feet; B. M. Logan, a brick building 60x110 feet, and the Texas Investment Co., a brick building 120x120 feet. M. Lasker will erect several brick buildings. Scurlock & Ralston; Johnson, Cook & Co., and Wood & Co. will each erect a brick building.

Villa Rica, Ga.—The Southern Cotton Oil Co. have erected a large seed warehouse.

Washington, D. C.—John C. Davidson will erect a brick dwelling on Q street to cost \$8,500; Charles Gessford, a \$5,000 brick dwelling on Massachusetts avenue, and Andrew McGarragh, 10 dwellings on B street.

West Point, Va.—A schoolhouse to cost \$6,000 is to be built. A. L. West, of Richmond, is the architect.

Wichita Falls, Tex.—The commissioners' court has let contract for the construction of a new jail to cost \$10,000 to the Diebald Safe & Lock Co., of Canton, O.

Winchester, Ky.—Mrs. T. A. Taylor will erect a business house.

Yazoo City, Miss.—Hotel.—Mrs. Josie McLaurin will build a hotel.

Yazoo City, Miss.—Hotel.—The organization of a stock company to build a large hotel is talked of.

Yorkville, S. C.—The Yorkville Loan & Savings Bank are erecting a bank building

Activity in a North Carolina Town.

MURPHY, N. C., August 19, 1889.
Editor Manufacturers' Record.

Murphy is the county seat of Cherokee county, the extreme southwestern county of North Carolina, bordering on Tennessee and Georgia. It is 135 miles west of Asheville, N. C., 180 miles north of Atlanta, 90 miles east of Chattanooga, and 80 miles southeast of Knoxville, and situated in the very center of the richest and most varied mineral region of the South, with railroads being built to the town from each of the above-named places. One, the Marietta & North Georgia Railway, now completed, and the Western North Carolina Railroad, finished to a point 18 miles distant.

The mineral resources of this section are varied, and, as a whole, are, I believe, unequaled by any other on this continent. Here are found the richest corundum mines of the world, rich ores of various kinds, notable among which are gold, silver, mica and copper; iron of the finest quality in inexhaustible quantities; marble of most exquisite variety, from pure white, pale flesh color to coal black, variegated by seams and stripes of every color, and talc in large quantities, of great variety and exceeding beauty, many specimens being almost transparent.

Companies of Boston, New York, San Francisco, Cincinnati, Richmond, Nashville, Lynchburg, Baltimore, Washington, D. C., Charleston, S. C., Charlotte, Atlanta, Chattanooga, Knoxville and many other places are interested in these minerals, and are only waiting the completion of railroads to develop their properties.

The Nalta Consolidated Marble, Iron & Talc Company, whose property is located five miles south of Murphy, are opening the same in most approved manner, and will shortly erect suitable machinery for preparing their marble and talc for market.

The "No. 6" property, located one mile north of the town, recently sold to a Nashville, Tenn., syndicate for \$16,000, will at once be developed. This property is rich in iron, marble, gold and silver.

The Cherokee Iron & Marble Company, who own 1,600 acres of land three miles east of town, upon which there are rich deposits of gold, silver, marble and iron are making preparation for its development in the most approved and modern style.

Gilbert Brandreth, late of Sing Sing, N. Y., has recently located here and purchased considerable ground in the town, upon which he is building about fifteen modern cottages. He is also arranging to erect a saw, door and blind factory.

Paddock, Lane & Co. (Lieut Gov Woodbury, of Vermont, being the company) have within the past year bought large quantities of timber lands in this county, and Gov. Woodbury has recently visited here and found the purchases of his company so satisfactory that they have decided to immediately put in extensive mill machinery for the sawing of their lumber. The officers of this company are located at Murphy. The Presbyterians are making preparations to erect a handsome church of modern architectural design.

LESLIE E. CAMPBELL.

OIL REFINERY—LOUISVILLE, KY., August 19, 1889.—We propose erecting a refinery within the next ninety days for running illuminating oils. Will be in the market for refinery, capacity 500 or 1,000 barrels per week. Will also need 7½ miles 2 inch line pipe, and pumps for same. Also three tank cars, capacity 120 to 130 barrels. Will pay cash.

KENTUCKY SOUTHERN OIL & GAS CO.

Sheffield, Ala.

The excursion of seventy or eighty leading New England business men to Sheffield, Ala., as reported in the MANUFACTURERS' RECORD last week has already resulted in great good. It gave these people, many of whom had never been in Alabama, an opportunity to see for themselves the wonderful growth of Sheffield. In all the history of American development, there are few places that have, in so short a time, laid such a foundation for permanent growth and prosperity as Sheffield. Others have been able to show a larger population in the same number of years, but Sheffield has been building for the future. It has established gigantic industries, as a basis for a large and permanent population, and not simply sought with a great Oklahoma hurrah to draw big crowds without the opportunity of finding remunerative employment. Sheffield has built wisely and well; and this, added to the energy which its land company is displaying, gives assurance that its future growth will, in all probability, more than fully reach the highest expectations of its most enthusiastic friends.

IN addition to the letters published elsewhere as to the location of the exposition of 1892, the MANUFACTURERS' RECORD has received, but too late for publication, letters from the following gentlemen: Hon. Barnes Compton, M. C. from Maryland, strongly advocating Washington; from the mayor of Huntsville, Ala., doing the same; mayor of Columbia, S. C., favoring New York for fear that Washington is too small; Hon. St. George Tucker, M. C. from Virginia, for Washington as combining all needed advantages; mayor of St. Sterling, Ky., for Washington; Gov. Fowle, of N. C., for Washington; mayor of Texarkana, Ark., for Chicago or St. Louis, and mayor of Roanoke, Va., who would prefer Washington but for its size, and thinks New York has more facilities for the exposition.

A FEW months ago Wilmington, N. C., organized a chamber of industry to aid in establishing new manufactures, and the success of the work of this organization may be judged from the following extract from a letter of Mr. J. M. Forshee the secretary to the MANUFACTURERS' RECORD:

"We are corresponding with parties with regard to locating the following industries: Two iron rolling mills, one decorating company for decorating china, glass and stone-ware, one glass factory, one trunk factory, one bagging factory from cotton and one hay and cotton press works, one agricultural implement works, one silk mill, one engine and saw mill machinery works.

A PETROLEUM refinery, the first ever established south of Maryland to refine Southern oil, is to be built by the Kentucky Southern Oil & Gas Co., of Louisville, which has for some time been testing the oil fields of Kentucky.

MACHINERY WANTED.

If you desire to purchase machinery of any kind consult our advertising columns, and if you cannot find just what you wish, send us particulars as to the kind of machinery needed. We will make your wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. You will thus get all information desired as to prices, etc.

Boiler and Engine.—W. P. Dugan, Bells, Texas, wants engine and boiler for ginnery.

Boiler and Engine.—Arthur Coffin & Co., Bryson City, N. C., want 70 horse-power boiler and engine.

Boiler and Engine.—The Alliance Cotton-seed Oil Mills, Dalton, Ga., want good second-hand or new 50 horse-power boiler and 40 horse power engine.

Boiler and Engine.—A. E. Willard, Homosassa, Fla., may possibly want small engine and boiler for pumping, irrigating, &c.

Boiler and Engine.—W. S. Brooks, Mill-edgeville, Ga., wants 40 horse-power engine and 50 horse-power boiler.

Boiler and Engine.—Sturdevan & French, Radford, Va., want 25 or 30 horse-power stationary and 35 or 40 horse-power portable or locomotive boilers, good second-hand or new.

Boiler and Engine.—C. M. Thompson, Lexington, N. C., may want boiler and engine.

Brick Machinery.—Sturdevan & French, Radford, Va., want full outfit for brick-yard; second-hand will do.

Brick Machinery.—W. M. Howard, Lexington, Ga., will want brick machinery.

Brick Machinery.—The Climax Fire Brick & Tile Co., Texarkana, Ark., want steam wheels for making ware and also steam dryers.

Bridge Building.—J. M. Rodriguez, County Judge, Laredo, Texas, invites bids till Sept. 17 for building a 345-ft. iron bridge.

Cane Mill and Evaporator.—A. E. Willard, Homosassa, Fla., wants small evaporator and cane mill.

Cells.—The time for receiving proposals for the eight steel-clad cells and corridor at Gainesville, Ga., previously reported, has been extended to September 27. Address A. R. Smith, Gainesville, Ga.

Clay Machinery.—W. M. Inge, Corinth, Miss., wants price of plant (not including boiler and engine) for washing 25 to 50 tons of clay a day.

Cold Storage Plant.—The Greenbrier Creamery Co., Lewisburg, want bids for cold storage plant for building 30x40.

Complete Outfit for Stove Works.—The Fort Worth Stove & Foundry Co., Fort Worth, Texas, will want complete outfit for \$50,000 stove works.

Complete outfit for oil refinery is wanted by the Kentucky Southern Oil & Gas Co., Louisville, Ky. Capacity to be 500 to 1,000 bbls. per week.

Corn Mill.—W. S. Brooks, Mill-edgeville, Ga., wants corn mill machinery, two sets rocks, &c.

Cotton-seed Oil Machinery.—The Alliance Cotton-seed Oil Mills, Dalton, Ga., want bids on cotton-seed oil machinery.

Cotton-seed Oil Machinery.—C. H. Teal, Colfax, La., wants estimates on full outfit for 10-ton cotton-seed oil mill.

Cotton-seed Oil Mill Machinery.—Guy C. Hamilton, Athens, Ga., wants to correspond with cotton-seed oil mill machinery manufacturers.

Electric Plant.—W. S. Brooks, Mill-edgeville, Ga., wants electric plant for oil mill.

Electric Plant.—R. J. Edenfield, Waynesboro, Ga., wants prices on electric plant, 50 or 60 incandescent lights, for small factory.

Ginnery.—W. P. Dugan, Bells, Texas, wants ginnery outfit complete.

Grist Mill.—W. H. Daniel, Mullins, S. C., will buy grist mill machinery after a while.

Grinding Machinery.—Thos. L. Badgett, Laurens C. H., S. C., wants a second-hand bone grinding machine.

Grading Machinery.—Holshouse & Schiltz, Clinton, S. C., want grading machinery such as scrapers, railroad plows, dump cars, track and rock tools.

Gymnasium and natatorium supplies are wanted by Tarver Waddell, Helena, Ark.

Heating.—S. L. Leary, architect, Charlotte, N. C., will want steam or hot water heaters for \$50,000 college at Raleigh.

Ice Machine.—The Bessemer Ice Manufacturing & Storage Co., Jas. H. Hard, manager, Bessemer, Ala., want to buy 10 or 15-ton ice machine.

Inclined Railway.—S. P. Withrow, care Russell House, Chattanooga, and others, previously reported as having incorporated the Mountain Short Line Incline Railway Co. to build an incline railway to top of Lookout mountain, will want full outfit of machinery.

Iron Pipe.—The Kentucky Southern Oil & Gas Co., Louisville, Ky., want 7½ miles of iron pipe.

Iron Rails.—Jas. F. Peters, Ironton, O., wants 150 tons 30-pound iron T rails.

Machines for Cutting Bar Iron.—The Medart Patent Pulley Co., of St. Louis, want "hand cutting-off machine for cutting round bar iron."

Metal Roofing.—The Alliance Cotton-seed Oil Mills, Dalton, Ga., want metal or other fire-proof roofing.

Locomotive and Cars.—Jas. F. Peters, Ironton, Ohio, wants a standard gauge locomotive and 30 to 40 flat cars.

Phosphate Machinery.—The Peruvian Phosphate Co., G. R. Boaz, president, will probably want phosphate machinery for new works.

Pumps and Tank Cars.—The Kentucky Southern Oil & Gas Co., Louisville, Ky., want pumps for oil refinery and piping oil and 3 tank cars.

Shafting.—The Alliance Cotton-seed Oil Mills, Dalton, Ga., want shafting.

Shafting and Pulleys.—Arthur Coffin & Co., Bryson City, N. C., want shafting, pulleys, &c.

Small Excursion Steamers.—W. H. Burgess, Chattanooga, Tenn., wants one or more excursion steamers to carry 30 to 50 passengers.

Soap Machinery.—H. J. Berrier, Box 20, Lexington, N. C., wants prices on small soap-making plant.

Straw Paper Mill.—Jacob Stern, Austin, Texas, wants machinery for straw paper mill to make two tons a day.

Steam Pipe.—Sturdevan & French want 150 feet 1½ or 2-in. steam pipe.

Water Works.—Bids for establishing water works at Union, S. C., are wanted. Address W. T. Graham.

Wood-working Machinery.—Jas. M. Benjamin, Charlottesville, Va., wants 40-inch bolting saw with power friction feed and bed planer, both second-hand.

Wood-working Machinery.—Sturdevan & French, Radford, Va., want a planer and a matcher.

Wood-working Machinery.—Whittle, Roehl & Co., 36 McGhee street, Knoxville, Tenn., want second-hand resaw.

INCLINE RAILWAY—CHATTANOOGA, TENN., August 19, 1889.—We expect to purchase the machinery to operate an inclined plane on Lookout Mountain. Do not know just what we will want yet, since our plans and specifications have not yet been drawn up. Will know in September.

S. P. WITHROW.

ETHERINGTON & NASON,

Manufacturers and Dealers in Supplies for

Boiler Makers, Machinists, Railroads, Steam and Gas Fitters

Boiler Plate and Tank Iron, Lap-Welded Pipe and Boiler Tubes, Boiler and Sheet Iron Rivets, Sheet Brass Goods and Engine Trimmings, Iron Valves and Fittings. Pipe Workers' and Machinists' Tools. Wood and Iron Pulleys. Belting, Hose and Packing. SEWER PIPE, FIRE BRICK and CLAY.

405 and 407 Elm Street, Dallas, Texas.

C. S. VAN NUIS,

Constructing and Consulting

ELECTRICAL ENGINEER,
18 Cortlandt Street, New York.

C. R. MAKEPEACE & CO.
ARCHITECTS and MILL ENGINEERS
PROVIDENCE, R. I. Plans, Specifications and Estimates furnished for Cotton and Woolen Mills.

LOCKWOOD, GREENE & CO.

MILL
ENGINEERS,
NEWBURYPORT, MASS.

PLANS and SPECIFICATIONS FURNISHED FOR THE CONSTRUCTION EQUIPMENT AND ORGANIZATION OF COTTON AND WOOLEN MILLS.

CAR PILE DRIVERS

Extension truss, to drive from one bent to another. 20 feet lateral swing, 9 feet from center. Fitted up with our new-style Nasmyth Steam Pile Hammers. VULCAN IRON WORKS, CHICAGO.



W. H. COLE,

Electrical ENGINEER

—AND—

Consulting Electrician,
321 E. 14th St., New York.

Tests, Measurements and Estimates of all kinds. Sole agent of the Phoenix Incandescent Lamp Co. Lamps for any System and Candle Power.

POPULAR AND DIRECT ROUTE.

THE BAY LINE

For Old Point Comfort, Norfolk and the South.

Steamers leave daily (except Sunday) Union Dock 6:30 P. M. Canton Wharf 7 P. M.; arrives Old Point Comfort 7 A. M., at Norfolk at 8 A. M., Portsmouth, S. 15 A. M. At OLD POINT COMFORT connect with CHESAPEAKE, OHIO RAILROAD for Richmond, Charlottesville, Greenbrier, White Sulphur Springs, Louisville, Cincinnati and all points West. At NORFOLK with NORFOLK & WESTERN RAILROAD for Petersburg, Richmond, Lynchburg, Roanoke, Bristol, Knoxville, Chattanooga, Memphis and the Southwest; also with the NORFOLK SOUTHERN RAILROAD for Elizabeth City, Edenton and Eastern North Carolina. At Edenton and Portsmouth, VA., with SEABOARD & ROANOKE RAILROAD for Weldon, Raleigh, Southern Pines, Charlotte, Fayetteville, New Bern, Wilmington, Charleston, Columbia, Augusta, Savannah, Jacksonville and all PRINCIPAL SOUTHERN CITIES.

Palace Steamers, Unsurpassed Cuisine, Undisturbed Night's Rest. Sure Connection. For Tickets and information apply at Company's Office, 129 E. Baltimore St. or on board steamers.

E. BROWN, G. T. A. KENNON JONES, Agent.

The **BOOMER & BOSCHERT**
KNUCKLE JOINT

PRESS
FOR BALING
CLOTH, PAPER, YARN, &c.
Or for any other purpose requiring
great pressure.
BOOMER & BOSCHERT PRESS CO.
329 W. Water St. Syracuse, N. Y.

MINERS' LAMPS



HUNT & CONNELL, Limited, SCRANTON, PA.

JOHN L. WILLIAMS & SON,
BANKERS,

—RICHMOND, VA.

Our MANUAL OF INVESTMENTS, the largest publication of the kind published by any banking house in the United States, may be had upon application by parties interested.

ALEX. BROWN & SONS

ESTABLISHED 1811.

BALTIMORE, MD.
—AND—

BROWN BROTHERS & CO.
New York, Philadelphia and Boston.
Foreign and Domestic Bankers,

AND MEMBERS OF THE
Baltimore, New York and Philadelphia
Stock Exchanges.

(Private wire between Baltimore, Boston, Philadelphia and New York.)

Interest allowed on deposits of Banks, Bankers, Corporations and Individuals. Railroad, Municipal and Other Loans Negotiated, and advances made on Grain, Cotton, Stocks and Bonds, and other approved collaterals.

BUY AND SELL BILLS OF EXCHANGE
on Great Britain and Ireland, France, Germany, Holland, British West Indies and other foreign points.

Issue Commercial and Travelers' Letters of Credit.

IN STERLING, available in any part of the world; in FRANCS, for use in Martinique and Guadalupe; and in DOLLARS, for use in this country, Canada, Mexico, the West Indies and South America.

Make Cable and Telegraphic Transfers of Money.

Drafts Collected in all parts of the world.

BROWN, SHIPLEY & CO., LONDON.
Financial Agents of the United States Government in England.

[Members of Baltimore Stock Exchange.]

WILSON, COLSTON & CO.
Bankers & Brokers,

216 E. Baltimore Street, Baltimore, Md.

Investment and Miscellaneous Securities a specialty, and large lines handled. Exceptional facilities for dealing in all classes of Southern Bonds. Loans on Collateral Securities negotiated. Quotations and information furnished on application, and correspondence invited.

J. Wm. MIDDENDORF, RF Members Baltimore Stock Exchange.

Wm. B. OLIVER.

MIDDENDORF, OLIVER & CO.
BANKERS AND BROKERS,

No. 213 E. German Street, [KEYSER BUILDING.] Baltimore, Md.

Stocks and Bonds Bought and Sold on Commission. Special attention given to Municipal and other Investment Loans. Dealers in Foreign Exchange. Drafts on Europe and Letters of Credit furnished.

New Southern Banks.

Alvarado, Texas.—The Farmers' & Mechanics' National Bank is the name of the national bank previously reported as being organized with a capital stock of \$50,000. L. B. Randall is president.

Asheville, N. C.—The Bank of Asheville, previously reported as to be changed to a national bank, has been authorized to commence business with a capital stock of \$100,000.

Bastrop, Texas.—The capital stock of the First National Bank, previously reported as being organized to succeed the Bastrop County Bank, is \$50,000.

Brady, Texas.—The McCulloch County Bank has been organized with E. M. Longcope, president, and E. J. Marshall, vice-president.

Camden, Ark.—The project of organizing the Camden National Bank, previously reported, has been abandoned.

Charlotte, N. C.—O. P. Heath, of Lancaster, S. C., and Ben. Heath, of Monroe, will establish a bank with a capital of \$100,000.

Coleman, Texas.—McCord, Cameron & Co. have recently established a bank.

Collierville, Tenn.—Efforts are being made to organize a bank.

Dallas, Texas.—Ardubke & Son have started a private bank.

Denison, Texas.—The State National Bank has been transferred to R. C. Sherman, of Bradford, Pa., and others.

Dyersburg, Tenn.—The Bank of Dyer County has been organized with S. R. Latta, president, and J. M. Nichols, vice-president.

Elkton, Md.—The name of the national bank previously reported as organized by W. M. Singerly, of Philadelphia, Pa., and others is the Second National Bank. W. T. Warburton is president, and W. M. Singerly, vice-president.

Farmerville, La.—A bank will be established, it is reported.

Frankfort, Ky.—The two banks previously reported as being organized have been authorized to commence business as the State National Bank, capital \$150,000, and the Frankfort National Bank, capital \$100,000.

Fort Gaines, Ga.—The bill previously reported as introduced in the legislature at Atlanta to incorporate the Bank of Fort Gaines has passed.

Goldthwaite, Texas.—D. H. Trent contemplates changing his private bank to a national bank.

Greenwood, S. C.—The Bank of Greenwood, J. K. Durst, president, has declared a dividend of eight per cent.

Jellico, Tenn.—The Citizens' Bank has been organized with J. F. Archer, president, and A. W. Smith, vice-president.

Mineral Wells, Texas.—The Mineral Wells National Bank has been organized.

Nashville, Ark.—The bank previously reported as started by Brad Scott is the Bank of Nashville, capital stock \$50,000.

Quanah, Texas.—J. G. James, of Hemisetta, W. E. Johnson and others will incorporate a bank with a capital stock of \$50,000.

Quincy, Fla.—The Quincy State Bank, previously reported, has been organized with E. P. Dismukes, president, and M. Munroe, vice-president. The capital stock has been increased from \$50,000 to \$60,000.

Springfield, N. C.—The People's Deposit Bank has been organized with G. D. Robinson, president.

Washington, D. C.—The name of the bank previously reported as organized by Allen C. Clark, John E. Herrell, G. F. Pyles and others, with a capital stock of \$200,000, is the National Capital Bank. W. B. Baldwin is cashier.

Waycross, Ga.—The South Georgia Bank, of Waycross, has been chartered.

Yorkville, S. C.—The Farmers' Alliance have organized the York County Farmers' Alliance Bank.

Victor Turbine Water Wheel.

The cuts shown with this are of water wheels recently made by the Stillwell & Bierce Manufacturing Co., of Dayton, Ohio.

Fig. 1 shows a pair of Victor turbines on horizontal shaft. Seventeen pairs of these wheels are in use in the great new mill of the Appleton Paper & Pulp Co. at Appleton, Wis., and twelve pairs are in use at the large pulp mill of the Piscata-

Capital for Central Sugar Refineries

WANTED—ALEXANDRIA, LA., August 15, 1889.—A few of us here wish to establish two, three or four central sugar mills, to be located in this parish. We have here the garden spot of the State and, I believe, the best sugar lands in the State. Most of our mills last year (the old-fashion, 3-roller mills) turned out from two to three hogsheads sugar per acre, besides from four to five barrels molasses. We require capital to erect and start the mills. We propose to

refineries here that are making money fast, and those men wish to take stock in the new enterprise. They claim that a plant of the kind I mention—one that will make from four to five million hogsheads of sugar per season—will pay for itself in three years after the cane is planted. An estimate of all the sugar planters puts the average yield of cane at 22 tons per acre, and at the present price of sugar the mills could pay \$4 per ton for cane delivered at the mill, which makes a handsome return for the far-

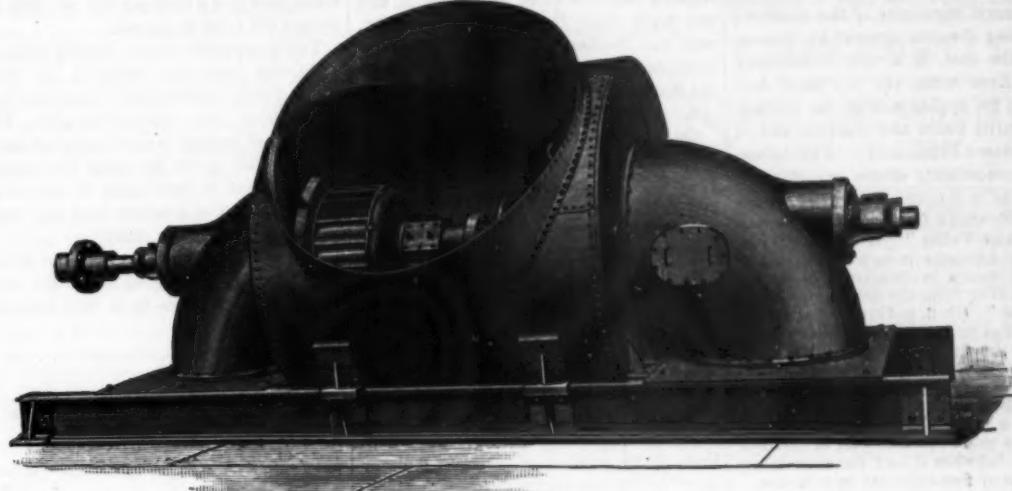


FIG. 1.

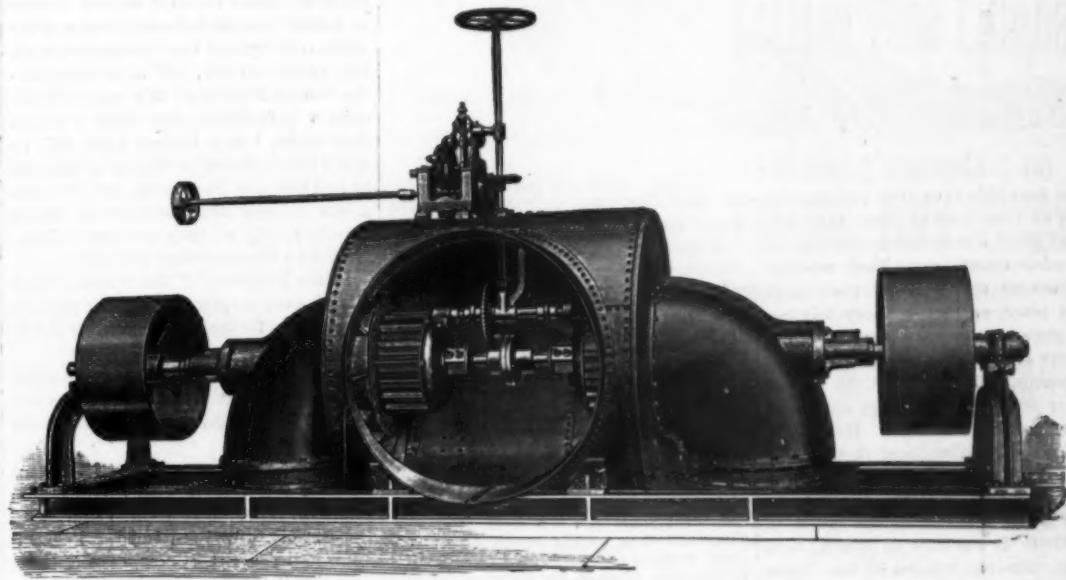


FIG. 2.

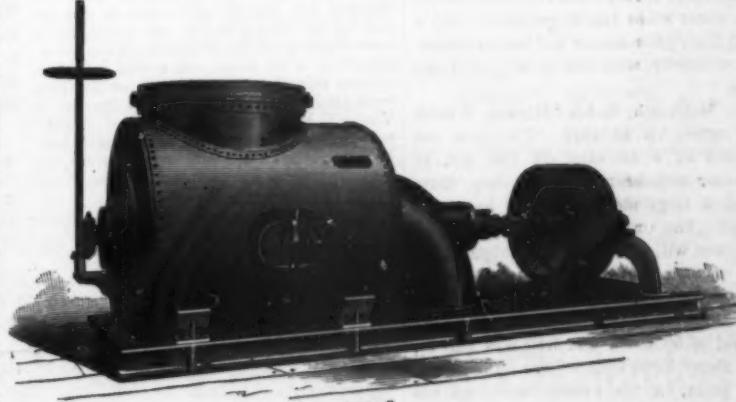


FIG. 3.

put in the diffusion process, which, as you have probably seen, makes as much as 220 hogsheads sugar from a ton of cane, while the best results from the double mills (two 3-roller mills, one just behind the other) is about 160 hogsheads, whereas the old mills now in use here can only obtain about 120 hogsheads sugar per ton. Our planters are all anxious to go into the cultivation of cane, as it will make them five times as much as from the cotton crop. We have two small

mer and at the same time big money for the mill. An acre of cane can be cultivated at the same cost as an acre in cotton, and by the first of July the crop is made and does not require any work until October, when it is ready to be cut for the mill; whereas, the cotton crop lasts from January to January. The expense of planting cane is the greatest drawback, as it takes one acre in cane to plant five, but the stubble cane the first year is nearly as good as the plant.

S. CULLEN.

If you wish to keep posted on the progress of the South, read the MANUFACTURERS' RECORD. Price \$4.00 a year.

MANUFACTURERS' RECORD.

[CONTINUED FROM PAGE 16.]

beyond question, to justify the erection of a modern furnace, with probabilities of comfortably supplying a number. The fact that the well-known Buena Vista furnace for a long period of years got all it wanted from one or two very modest openings proves nothing, for all that it used in fifty years, in its short charcoal blasts, wouldn't run a large modern coke furnace two years, and the mining of 80,000 to 100,000 tons of ore a year makes a very large hole in the ground.

The general regularity of the measures and the long distance covered by the outcrop of the ores, is a very satisfactory feature. Even when the ore itself does not make its appearance at the surface, the damourite slates and clays do, and of these Professor Prime says: "This formation is economically of the greatest importance, as in it occur the brown hematite deposits which form the staple supply of the Lehigh Valley." (D p. 7). "When the brown hematite is in place, it almost invariably occurs in damourite or in the clays resulting from the decomposition of these slates" (D. 3, p. 191). At all of the ore openings and pits on the Buena Vista property, the first thing that strikes the eye is this slate or clay, and it can be followed clear across the property some five or six miles.

Within a third of a mile from the railroad, and a short distance east of the new hotel, and between it and the mountains, are a series of foot-hills, cut by a ravine.

traced in a southwest direction for a considerable distance. There can be no doubt but that the deposit is an extensive one. The bank yields one-half clear lump ore, and the bulk of the so-called wash ore must be simply the lump ore broken up in mining, for at no point examined does the bed show much clay. The fine ore washes three-fourths clear ore."

A short distance off another pit had been opened, from which considerable ore had been taken, but at the time of the writer's visit the sides had fallen in, and not much could be seen. Capt. Jordan, who was in charge of the mining operations, said that when their work stopped the floor of both pits was solid, high grade ore.

On the opposite side of the ravine, only a shore distance away, and so located as to lead to the conclusion that it has no connection with the other openings, but is an entirely independent deposit of ore, is the Hayes Bank. The showing here is very large indeed and gives promise of great quantities of high grade ore.

This paper will hardly admit of any further elaboration of the question of ore supplies. We saw enough to make us think that there was a first-class prospect for a mining and pig iron industry. Whether there are five or six distinct leads of ore, or some of them are folds, or how the deposits may widen out, or pinch,

say 17x75 feet, averaging 100 to 125 tons a day, be erected at Buena Vista, at what cost can pig iron be made? There are admirable sites in close proximity to the ores and excellent limestone, water and railroads. We propose to make liberal estimates to cover contingencies. In putting the ore at the furnace at \$1.25 per ton, a royalty of 20 cents a ton is included, and a fair profit to the contractor. In the price of coke, the present selling price at the ovens at Flat Top, \$1.65 per ton, is taken, and 4¢ a cent per ton per mile for freight 175 miles is allowed.

The prospective early development of additional large coal areas in the New River district leads to the conclusion that competition may reduce the cost. The distance of haulage is practically the same. Connellsburg is too far away for current supplies, but is invaluable to fall back upon, in event of a failure from any cause whatever of the other districts.

One and one-eighth tons of coke to the ton of iron is considered ample for these easily reduced ores in a well-managed furnace.

2 1/8 tons of ore @ \$1.25	.....	\$2.82
1 1/8 " coke @ \$2.95	.....	3.32
3/4 " limestone @ 60 cts.	.....	.45
		5.58
Labor	.....	\$1.25
Tools, oil, sand etc	.....	.90
Incidentals, taxes, management, etc	.....	.75
		3.00
		\$9.58

To some of the enthusiastic stockholders in the Buena Vista Co who see in their projected town the industrial center of the whole country, and their prospective town lots worth, anyhow, half as much as similar lots on Broadway, this estimate may seem a trifle liberal, but those who put their money into a furnace plant will be much better pleased at the end of the year to find that they have made iron 50 cents a ton cheaper than anticipated, rather than to rectify all their previous calculations by a disappointing cost sheet.

In the judgment of the writer, Buena Vista is a capital place for not only pig-iron making, but for the establishment of collateral enterprises.

Apart from its apparently strong position as regards ore, fuel and lumber, it has one unusual advantage, which must not be overlooked.

It has three competing railroads for reaching the markets with manufactured products: The Shenandoah Valley, with the Norfolk & Western and the Pennsylvania railroads; the Chesapeake & Ohio, and the Baltimore & Ohio, all of these roads leading to the seaboard.

Booming town sites is about over, but with the extraordinary development of the country substantial prosperity must follow a combination of great natural resources and wise, prudent and energetic management.

\$50,000 BUILDING—CHARLOTTE, N. C., August 19, 1889.—I have secured the contract for designing Trinity College at Raleigh, N. C., to cost \$50,000, and will use either steam or hot water for heating purposes.

S. L. LEARY.

or even disappear, only the pick and shovel and time can tell.

In speaking of a mine in the Lehigh district, with much less regularity in the measures, Prof. Prime says: "The mine is now 2,000 feet long, 800 feet wide, 90 feet deep at its lowest part, and has been worked for 40 years" (D p. 40).

Quality of the ore.—A good many analyses have been made at different times and by different parties, all showing a very high degree of excellence for brown ores. With these we have nothing to do, because we don't know how the samples were taken, and a few average samples are worth a cart load of mere analyses.

Several years ago Mr. J. H. Bramwell examined this property and selected a large number of samples. A chemist and furnace man himself for many years, and using largely the brown ores of Virginia, and consequently having learned by a costly experience the difference between analysis and the ore as it came in day by day by car-load lots, no one could have been better qualified to select the representatives of what these ores would be when largely mined and used. These samples were analyzed by Prof. M. B. Hardin, the of Virginia Military Institute. Prof Hardin told the writer that the instant he saw them he recognized that they were unlike the samples ordinarily presented, and had been taken by a "master-hand."

We are safe in accepting these as thoroughly representative

	I.	II.	III.	IV.	V.
Sesquioxide of iron	73.52	81.33	82.09	71.52	68.02
" of manganese	.06	.14	.10	.....	.....
" of cobalt and nickel	.004	.006	.018	.004	.....
Oxide of zinc	.014	.028	.024	.040	.....
Oxide of copper	.014	.028	.024	.040	.....
Alumina	3.70	1.07	.83	3.62	.....
Silica	10.33	4.60	4.62	18.50	15.53
Lime	.46	.65	.37	.51	.....
Magnesia	.40	.32	.10	.42	.....
Sulphuric acid	.805	.608	.437	.366	.339
Water (combined)	9.88	10.86	10.44	10.04	9.65
Moisture	.43	.18	.48	.63	.84
	99.93	99.706	99.639	100.06	.....
Metallic iron	51.46	56.93	57.46	50.06	47.61
Phosphorus	.391	.963	.191	.160	.148
Phosphorus in 100 parts of iron	.760	.463	.332	.320	.311

The sulphur runs from 0 to .02.
 I. Lump ore from opening No. 1.
 II. Lump ore from Hayes' bank.
 III. Lump ore from shaft (Engine House pit).
 IV. Coarse ore from shaft.
 V. Wash ore from shaft.

These ores speak for themselves. Assuming that a first class modern furnace,

Subscribe to the MANUFACTURERS' RECORD.
 Price \$4.00 a year, or six months for \$2.00.

SAW AND STAVE MILLS—CHICAGO, August 12, 1889.—The Frank Lumber & Stave Co. have erected extensive stave works and a saw mill at Frank Station, five miles east of Johnsonville, Tenn., on the Nashville, Chattanooga & St. Louis Railway. The newest and most approved machinery was procured. For the present only tight barrel work will be made at the stave mill, such as whiskey, pork and oil barrel staves and headings, and also beer keg material. Later on, likely, slack barrel material and heading will be made. The saw mill is a "Lane & Bodily," of Cincinnati, and we intend to saw poplar, oak and hickory, and shall also quarter-saw a good deal of oak. We will utilize all the limbs and branches which can be cut into cordwood. We intend to employ fully 100 men. If freight charges from that portion of Tennessee, especially by river, to Cairo and Chicago were more reasonable, we would employ 500 men. The Waverly Timber & Iron Co., for which I am manager, own 43,000 acres of hardwood timber in Humphrey Co., Tenn., and they, too, will soon begin extensive operations. Our principal market for the present is Chicago, though we shall be glad to meet buyers from other cities.

JOSEPH FRANK, Manager,
 113 Franklin street, Chicago, Ill.

WANTS.

M ECHANICAL DRAUGHTSMAN familiar with millwright work and iron machinery in general. Address THE JEFFREY MFG. CO., Columbus, Ohio.

WANTED—A machine that will crack round peas after they are kiln-dried, separate the skins from the peas and blow same out. Address J. E. care Lord & Thomas, Chicago, Ill.

WANTED SITUATION.—By practical mechanician and designer, as superintendent or foreman. Used to small work, at present taking charge of thirty men. Address P. O. Box 379, Grand Crossing, Ill.

WANTED.—Correspondence relative to investing in valuable Sand and Limestone Quarries in Alabama. I have some extra inducements to offer in Stone Quarries. Will send samples if desired. J. W. HARRIS, Box 342, Anniston, Ala.

A THOROUGHLY COMPETENT MINING ENGINEER is an experienced Mine Manager, used in opening up and developing mines, desires an engagement. Fifteen years' experience. Highest references. Address MINING ENGINEER, care Manufacturers' Record.

WANTED.

A PARTNER with experience in the manufacture of Sash, Doors and Blinds, who has \$5,000 to invest in an established business. Good location and prospects of a large trade. Address

S. L. PARSONS,
 Sandersville, Ga.

THE OWNERS OF A PATENT SPARK EXTINGUISHER desire a party with money to push sale. It is a perfect success, designed principally for agricultural engines. Small, handy, easily adjusted and so light that a canvaress can carry 25 in a buggy. Sold to limited extent with success last fall, but have not the money to carry on the business largely. Pays an immense profit and presents rare opportunity for moderate amount of money. The season in the cotton belt is at out of hand and almost any territory can be secured. Would prefer giving an interest in profits but would sell also. Address INVENTOR, P. O. Drawer 61, Yo kville, S. C.

WANTED.

Parties with capital and skill to erect and operate a **50-Ton Charcoal Furnace** on our property.

Cost of making Charcoal, Pig and Wheel Iron \$13 per ton. Freight on output to market \$2.50 to \$3.00.

Also parties with same to make Charcoal Blooms. Cost of Blooms \$22 per ton.

Cost of Charcoal 4 1/2 to 5 cents per bushel of 26.80 inches.

By burning in improved kilns and saving bi-products the charcoal can be had as a bi-product itself.

MAGNETIC ORES.—Average Analysis, 55 to 65 per cent. Metallic Iron; Silica, 4 to 6 per cent.; Manganese, none; Titanium, none; Phosphorus, .001 to .025 per cent.

ADDRESS

JOHN L. BLACK,
 Managing Director, BLACKSBURG, S. C.
 OR SEE
 WM. M. ELLIGOTT & SONS, BALTIMORE, MD.

Eastern Lumber Markets.

[Special correspondence MANUFACTURERS' RECORD.]

New York, August 20, 1889.

The week has been a very quiet one in lumber trade circles. Dealers say very little new business has been transacted, but that receipts on previous engagements are quite large. The yards are well stocked with both soft and hard woods. Building operations continue on a large scale, not only in and around this city, but in nearly all markets which New York supplies. Our outside advices show no unusual movements in lumber. Chicago people who have been with us this week report no decadence in the white pine movements, but find fault with the refusal of the country to promptly take all that their mills have the capacity to turn out. But Chicago never was pleased with even her most brilliant achievements. She is now after the world's fair of 1892, and so far as getting together the cash, she will surpass New York. We are a commercial people, and perhaps have not quite as much of that thing called public spirit as some other places. There is very little to be said concerning lumber this week, because most of our August and September wants were covered 30 days ago. This is not considered a good month to buy ahead, but as soon as September comes buyers from all quarters may be expected. The wholesalers also will then renew their engagements for yellow pine and for hardwood. Some Georgia parties have been here to study the situation and make arrangements to be represented. They find this necessary. They can then act more intelligently. But small producers, men running single mill and the like, cannot do better than they are now doing.

Our receipts of yellow pine have not fallen off this summer, notwithstanding the very large stocks hurried in during the second quarter of the year. The trouble over cut prices has partly disappeared. Yellow pine will probably not be crowded below its present figures. Vessel rates are favorable, and the country distribution is keeping supplies here under control. The old story about North Carolina pine must be once more told, for want of something new to say. The story is an interesting one, because everything that the lumber manufacturers there send us sells.

We are now in the midst of our house-furnishing season. We are using all manner of wood for this purpose.

Reports from Boston to-day show a relatively better business than two weeks ago. Albany is doing well. Business is active all along the lakes. We have a good many callers from the South. They come for news and information, bringing little except that business of all kinds is booming.

The exports of walnut are large in this market. The export trade generally is heavy. Quartered oak quotations have not varied for some weeks. Plain oak can occasionally be picked up at a bargain. Poplar is slowly recovering lost ground. Ash is doing well under the persistent work of agents. Cottonwood is finding a fair market. The usual quantity of cypress is going to the manufacturers.

We hear no end of syndicates. Foreign capital is rushing to this side. Our business men are in high spirits over fall prospects. Next week will bring some interesting information concerning Southern lumber in Northern markets.

ADVERTISERS wishing to reach manufacturers of all classes, mining companies, steel, iron and hardware dealers of the entire South, cannot find a better medium than the MANUFACTURERS' RECORD.

WHAT Texas needs, says the Texas Live Stock Journal, as a safeguard for her live stock interests is a home market of respectable dimensions, supported by canneries, pork packing houses and dressed beef establishments, not necessarily to consume everything, but to furnish the safeguard so necessary to relieve the greater markets of the eternal strain of over supplies. Such a home market must have a beginning, and to get that beginning stockmen must exert themselves. It is not necessary for the stockmen as a body to go into the canning or beef-packing business, but they can offer some inducements for others to do so. They could offer a bonus, guarantee the rental of buildings for a term of years, or offer so much per head for the first hundred thousand cattle killed and canned in the State. Individual stockmen who might be able could take stock in the enterprise.

WANTS GRADING MACHINERY—CLINTON, S. C., August 15, 1889.—We have contract for grading and masonry on Georgia, Carolina & Northern Railway. Will need such machinery as carts, scrapers, railroad plows, dump cars, track and rock tools.

HOLSHouser & SCHILTZ.

WILL BUILD STOVE FOUNDRY—FORT WORTH, TEX., August 16, 1889.—We will build a stove and foundry works at this place soon as material can be had, buildings to be of brick, 60x125, one story; 34x80, two story; 15x24, two story; 24x65, one story; 15x24, one story. Will buy new machinery and equipment out and out. Will go on the market in about 30 days for same.

FORT WORTH STOVE & FOUNDRY CO.

Trade-Marks Recently Issued from the U. S. Patent Office

Messrs. Higdon & Higdon, Solicitors of Patents and Trade-Marks, St. Cloud Building, opposite U. S. Patent Office, Washington, D. C., report the following list of trade-marks recently registered:

No. 16,898—Steam Valves and Water Valves.—Fairbanks & Co., New York, N. Y. Application filed June 17, 1889. Used since December 10, 1888. The letters "XL" surrounded by or inclosed in a circle.

No. 16,899—Steam Valves and Water Valves.—Fairbanks & Co., New York, N. Y. Application filed June 17, 1889. Used since December 10, 1888. The letters and character "F. & Co." inclosed in or surrounded by a triangle.

No. 16,914—Composition Watch Cases.—The Duer Watch Case Manufacturing Co., Cincinnati and Canton, Ohio. Application filed May 6, 1889. Used since April 25, 1884. The word "Silverine."

No. 16,914—Varnishes, Stains, Japans, Surfacers and kindred goods.—The Watts & Goyer Co., Chicago, Ill. Application filed July 5, 1889. Used since March 15, 1889. The word "Rock."

PROPOSALS.

SEALED PROPOSALS will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 5 o'clock P. M. on the 10th day of September, 1889, for all the labor and materials required to complete the approaches to the U. S. Postoffice, &c., building at St. Joseph, Mo., in accordance with specification and drawing, copies of which may be had on application to this office and the office of the Superintendent. Each bid must be accompanied by a certified check for \$100. JAS. H. WINDRIM, Supervising Architect. August 17, 1889.

SEALED PROPOSALS will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 5 o'clock P. M. on the 3d day of September, 1889, for all the labor and materials required to complete the approaches to the U. S. Postoffice, &c., building at Minneapolis, Minn., in accordance with the drawing and specification, copies of which may be had on application at this office or the office of the Superintendent. Each bid must be accompanied by a certified check for \$100. JAS. H. WINDRIM, Supervising Architect. August 14th, 1889.

SEALED PROPOSALS will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 5 o'clock P. M. on the 3d day of September, 1889, for all the labor and materials required to fix in place complete a low-pressure steam-heating and mechanical ventilating apparatus for the U. S. Courthouse, Postoffice, &c., building at La Crosse, Wisc., in accordance with the drawings and specification, copies of which may be had on application at this office and the office of the Superintendent. Each bid must be accompanied by a certified check for \$100. JAS. H. WINDRIM, Supervising Architect. August 14th, 1889.

SEALED PROPOSALS will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 5 o'clock P. M. on the 3d day of August, 1889, for all the labor and materials required for the iron and wood floor, ceiling and roof construction, iron work of stair, slate and copper work of roof, down pipes, &c., required to enclose the United States Postoffice, &c., at Dayton, Ohio, ready for interior finish, in strict accordance with the drawings and specification, copies of which may be had on application at this office and the office of the Superintendent. Each bid must be accompanied by a certified check for \$100. JAS. H. WINDRIM, Supervising Architect. August 7th, 1889.

THE CROWDUS
Electric Fare Box.

The only perfect light at night. Simplest in construction. Easiest to clean. Registers each fare. Increases earnings. Exposes frauds. The smallest and neatest. Write for catalogue "B."

Electric Fare Box Co.

NASHVILLE, TENN.

JOHNSON, SHRYOCK & CO.

HARDWOOD COMMISSION MERCHANTS.

Correspondence Solicited.

Office. - Shryock Building, BALTIMORE.

Phœnix

Incandescent Lamp Co.

CHICAGO, ILL.

The Highest Quality.

The Lowest Price.

Can be used for any
Electric Light
System.

SATISFACTION GUARANTEED.

Series Lamps.

BATTERY & LAMPS.

Write for Circular and Price
List before buying
elsewhere.

MINOR SCOVEL, Pres.

H. S. JACKSON, Vice-Pres.

W. L. CHERRY, Sec. and Tres.

The Scovel & Irwin Construction Co.

OF BIRMINGHAM, ALA.

Address all correspondence to the Branch Office,

Cole Building, NASHVILLE, TENN.

General Engineers and Contractors

For the Design and Construction of

Water Works,

Sewerage Systems,

Railroads,

BONDS, STOCKS,

MORTGAGES,

AND OTHER

SECURITIES

NEGOTIATED.

FRANCHISES
FOR
WATER WORKS
AND
FUEL GAS PLANTS
SOLICITED.

Suburban Roads,
Blast Furnaces,
Fuel Gas Plants.



Joyce, Gridland & Co.

DAYTON, O.

MANUFACTURERS OF

J. O. Joyce's Pat. Lever Jacks

Compound Lever

AND SCREW JACKS,

AND BENCH VISES.

50 varieties of Lever and Screw
Jacks for railroad use.
Please send for illustrated catalogue.

W EDWIN PEREGOY & CO.

WHOLESALE AND COMMISSION

LUMBER, LOGS AND STAVES,

113 S. GAY STREET,

P. O. Box 438. BALTIMORE, MD.

A. C. DANNER,

Mobile, Ala.

Yellow Pine Flooring and Ceiling,

Stepping, Finishing, Decking, Car Sills,

And all kinds of Rough or Dressed Yellow Pine.

E. B. HUNTING & CO.

BALTIMORE, MD.

JACKSONVILLE * AND FERNANDINA, FLA.

WHOLESALE MERCHANTS

AND MANUFACTURERS OF

Yellow Pine Lumber

Buy for cash on cars at Mills and sell delivered to all points reached by rail or water. Write Baltimore Office.

THOMAS J. SHRYOCK & CO.

YELLOW PINE COMMISSION MERCHANTS.

Correspondence Solicited.

BALTIMORE AND WASHINGTON.

THE

Mineral & Timber Land Co. OF THE SOUTH.

Capital - \$100,000.

Ex-Gov. John C. Brown.....President

Jere Baxter.....Vice-Pres' and Gen'l M'nr

J. H. Moore.....Vice President

T. F. P. Allison.....Vice President

Lewis T. Baxter.....Secretary and Treasurer

Mineral and Timber Lands in the Southern States Bought and Sold on Commission.

Agencies in New York, Chicago, Boston and London.

We call the attention of owners of large tracts of land to the unusual advantages offered by this Company. Address

LEWIS T. BAXTER,

Secretary and Treasurer.

Nashville, Tenn.

Re'resents: The bankers and business men of Nashville, Tenn.

The Scovel & Irwin Construction Co.

OF BIRMINGHAM, ALA.

Address all correspondence to the Branch Office,

Cole Building, NASHVILLE, TENN.

General Engineers and Contractors

For the Design and Construction of

Water Works,

Sewerage Systems,

Railroads,

BONDS, STOCKS,

MORTGAGES,

AND OTHER

SECURITIES

NEGOTIATED.

FRANCHISES
FOR
WATER WORKS
AND
FUEL GAS PLANTS
SOLICITED.

Suburban Roads,
Blast Furnaces,
Fuel Gas Plants.

ATHENS, GA.

A Classic North Georgia Town and Something About Its Industries, &c.

[Special correspondence MANUFACTURERS' RECORD.]

ATHENS, GA., August 17, 1889

The State of Georgia, by some measure of general consent on the part of its peo-

ple is divided into three portions or sections, whose boundary lines cross the State latitudinally from the Savannah river on the east to the Chattahoochee on the west. The largest of these is the Southern or "Wire Grass" division, which has a northern limit about the neighborhood of Macon, and embraces the cotton belt proper, the rice and other coast industries, and the magnificent lumber and turpentine forests for which the State is noted. North of this "Wire Grass" country is "Middle Georgia" or the "red belt," about which so much has been written, and which in *ante bellum* days was the most fertile and prosperous portion of the State. This section of "Middle Georgia" extends well up above the capital city of Atlanta to the foot hills of the mountain or "Cherokee" division, the latter covering all of the Blue Ridge region, and being named, presumably, in honor of the superb race of Indians who first inhabited its soil.

It would seem that the partition of the State into three sections might have sufficed for all local needs, but the Georgians have gone to work and run other longitudinal lines, which separate both the "Wire Grass" and "Cherokee" divisions in twain. An imaginary line falls from a point near the city of Macon to the Florida limit, and all of the counties west of it, fertile cotton region, abutting upon Alabama, are popularly known as "Southwest Georgia." A similar division has been effected in the Northern or Cherokee section by the quiet secession of those counties east of the Piedmont Air Line from their sisters, and the establishing of a new territory of their own, called "Northeast Georgia," of which the picturesque little city of Athens is the political and commercial capital.

It is about this thrifty town and its industries that I now propose to write, for until a very few years ago its development and growth had barely begun. Athens is the county town of the county of Clarke, and is a place of about 8,000 inhabitants. It is situated on a high bluff overlooking the Oconee river, a shallow mountain stream, whose current breaks into a series of rapids opposite the town, furnishing an almost unlimited power for manufac-

ture purposes. Geographically considered, Athens is one of the most charming of Georgia towns. Its high altitude, salubrious climate, pure water and romantic surroundings impress the traveler, and so early as 1799 attracted public attention, and soon after, in 1801, the legislature of the State by formal enactment located the State University there and endowed it. Some years ago the writer visited Athens for the first time, having reached it over

with all modern appliances. Indeed it may be remarked in this connection that there is no town or city in Georgia, or in any Southern State, whose residents enjoy more educational advantages. A liberal system of public free schools is not only maintained, but the university of the State is practically free, no fees being charged for tuition in any of its courses. Inquiry into the methods of teaching in the public schools developed the fact that they are practically the same as taught in the best disciplined schools North and South, and above fifty per cent. of the school population of the city, white and colored, are receiving instruction, a commendably large number. Besides the State University, the Lucy Cobb Institute for females is located here and enjoys a large patronage from Georgia and contiguous States.

As a market place Athens has advantages over many of the neighboring towns. The completion of new railroads to her gates is constantly widening the field for her merchants. Only a few years ago the town drew its patronage wholly from the mountain regions to the north and from the contiguous counties, but to day her jobbing houses travel salesmen into territories long pre-empted by the larger cities, and, if one may judge by the busy appearance of her warehouses, her business men are prosperous and their trade is satisfactory. I have been unable to obtain an approximate statement of the trade of the town for the year 1888, but for the year previous, 1887, it amounted to quite \$8,500,000, not including the products of three cotton factories, which, if added,

In the matter of manufactures the city has a fair share, although the field is un-filled, and many industries are unrepresented. Located on the river falls are three cotton factories, and in the town is an iron and brass foundry. The three cotton mills have an aggregate of about 30,000 spindles and over 600 looms. Their products are a superior class of check cotton goods and yarns, which find ready sale in the markets of New York, Philadelphia and Boston. One of these mills was built as far back as 1835, and the capital first employed was only \$30,000. It was christened the "Athens Mill," and the superior quality of its goods, known as "Athens checks," soon enabled the stockholders to increase their facilities for work, until the present structure, with its valuable water power and franchises, resulted. The "Georgia" and "Princeton" mills are located near by, and each is apparently enjoying its full share of prosperity. It might be added that the rapids on which these factories are located afford other superior mill sites, and the working power of the stream is said to be double that of the great \$8,000,000 canal at Augusta, which furnishes the water-power for all the manufacturing industries of that city.

A brief summary of the manufactures of Athens, from a late issue of the Constitution, will show that there is already a solid foundation for great industrial development.

"Her cotton factories stand first. They are:

The Athens Cotton Manufacturing Co., with \$125,000 capital, 10,000 spindles, 350 looms, employing 300 hands and consuming annually 4,000 bales of cotton. Its power is principally water, but steam is also used.

The Georgia Manufacturing Co., with \$120,000 capital, 8,000 spindles, soon to be increased to 10,000, with 120 looms, employing 200 hands and consuming 3,000 bales of cotton.

The Barnett Shoals Thread Factory, now almost completed, with \$100,000 capital, 5,000 spindles and to employ about 60 hands. The mill will make No. 20 yarns.

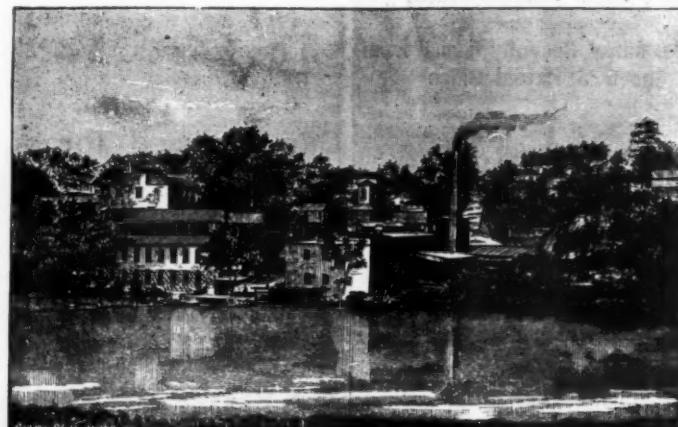
Princeton Factory, with \$100,000 capital, 5,000 spindles, 120 looms, employing 105 hands and consuming 1,500 bales of cotton.

High Shoals Cotton Factory, with \$120,000 capital, 6,000 spindles, 100 looms, 150 hands and consuming 2,500 bales of cotton.

Then there is the Athens Foundry &



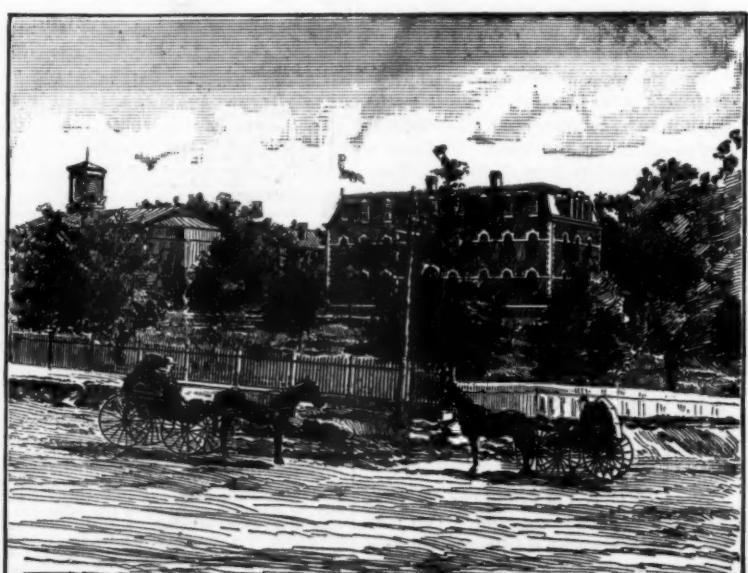
A BUSINESS STREET, WITH A VIEW OF THE STATE UNIVERSITY



ATHENS MANUFACTURING CO. - R. L. BLOOMFIELD PRESIDENT.

an insecure forty miles of rail, which connected at the village of Union Point with the railroad between Atlanta and Augusta. It was then, as it had been for a half century or more previous, a sleepy university town enjoying a local trade only with the neighboring counties, and content, apparently, with its peculiar and complete isolation. But a brighter day soon afterwards dawned upon the place, when a spur or branch railroad thrown out by the Piedmont system touched it, binding it more nearly to the world's markets and ridding it of the railroad monopoly that had for generations sapped its industries and retarded its growth. The beneficial effects of this competition were felt immediately, new vigor was infused into its citizens, and the busy city of to day, with its factories and mills, its big jobbing houses, cotton compresses, well-lighted streets, water supply, public schools, street railways, etc., has supplanted the old university town as if the change had been wrought by magic.

Some shrewd observer has declared that the appearance of the churches and school buildings of a community suggested a fair idea of its moral tone and business prosperity. Measured by such a rule, Athens would undoubtedly pass for a prosperous city, her church edifices being imposing and beautiful, and her public schoolhouses ornamental and comfortable and equipped



STATE COLLEGE OF AGRICULTURE AND MECHANIC ARTS.

would make the total \$700,000 more. The cotton receipts of the place are very large. In 1887 100,000 bales of cotton were received, put through steam compresses and shipped to Northern and Eastern factories and ports.

Machine Works, with \$43,000 capital and employing 40 hands. This has been remarkably successful, having paid to the stockholders in dividends within the past eight years \$65,000 in cash, and now having on hand some \$40,000 in cash.

Mr. Thomas Bailey, the general manager of this foundry, has been so successful with it that he has just decided to build a new one. He has organized the company and will build it immediately.

Athens also has a paper mill with \$40,000 capital, making the best grades of news and manilla papers.

It has perhaps the only bobbin factory in the South, making them from the native woods grown in the surrounding country.

children in this college, and the intermixture of old *antebellum* mansions, with their fluted pilasters and broad lawns, with the more modern residences of the period, affords a striking as well as gratifying architectural effect, on which the eye delights to linger. The town covers a large area, but the suburban houses and adjacent villas have been made conveniently accessible by the building of street railways owned by a Philadelphia syndi-

all sections of the State of Georgia. A prominent citizen, Hon. H. H. Carlton, member of Congress from the Athens district, whose beautiful villa is one of the most attractive sights in the suburbs, assured me that he would lose by rotting 1,000 bushels of the finest varieties of peaches this season. No market is the complaint, and yet the town is without a canning factory to garner up all this waste. I know of no better opening for some enterprising Northern man with a small capital than the building of an enterprise of this character in Athens. It will yield big results.

In conclusion, I may add for the information of the MANUFACTURERS' RECORD's many Northern readers that the people everywhere in Georgia are conservative and hospitable. No Northern man who desires to invest his money in a Georgia enterprise or take up his residence in this State need torture himself with the thought that his interests, personal and otherwise, will be jeopardized. In Athens, as elsewhere in Georgia, the people are at work—earnestly at work—and the scars of civil war, as well as its bitterness, are fast fading away. The people are polite and hospitable to strangers.

To any person who may wish to further investigate the advantages offered by the town of Athens and vicinity for investments, etc., I beg to refer them to any one of the following committee of citizens who will cheerfully answer any correspondence that may be addressed to them on the subject, viz: Messrs. Ferdinand Phinizy, E. T. Brown, T. L. Gant, C. G.



JACKSON STREET FREE SCHOOL AND WATER TOWER.

It has a guano factory with \$50,000 capital, a cotton seed oil mill with \$25,000 capital, two large grist mills in operation and another being built, two compresses, an ice factory, two large planing mills, a pottery with \$20,000 capital and employing 25 hands, making tiles and drain pipes, five large cotton warehouses, two building and loan associations, three banks, two carriage and wagon manufacturers, and various other small industries, employing from one to half a dozen hands, while a furniture factory is to be built this fall.

Athens, as a business point, is one of the best in the State. In the first place, its banking capital, in proportion to population, is larger than any city in Georgia. The national bank has \$100,000 capital and something over \$200,000 surplus, while it pays 20 per cent. to its stockholders annually. The University Bank has \$125,000 capital and \$15,000 surplus. It pays 10 per cent. Then there is a savings bank with a small capital. Besides these, the Georgia Railroad & Banking Co. have recently decided to establish a bank here and will probably do so in the near future.

Her business men are chocked full of pluck and energy, and are always at work extending Athens's trade. They now have five grocery houses, two dry goods houses, one shoe house and two hardware houses, doing an almost exclusive wholesale business. These houses keep twenty-five druggists out at all times, and Athens's trade extends from fifty to one hundred miles in all directions."

It would seem that Athens is to be the railway center of Northeast Georgia. Already three lines have their termini in the town, and the trunk line connecting Atlanta with the Roanoke system to Norfolk, now being built and called the Georgia, Carolina & Northern, will pass directly through the city. Surrounded as the place is by fertile agricultural counties, and with ample banking capital, it will doubtless soon become the distributing point for the large area of which it is the geographical center. Indeed, I know of no town in the State whose future is more fully assured and where so many inducements are offered in the matter of investments in both landed estate and business enterprises.

Another pleasing feature of the city is its many beautiful homes and its cultured society. The location of the State University early in the present century attracted to the place many families who were able and desirous of educating their

cate, who propose soon to further improve their service with new cars and electric motors. Among the notable houses that attract the attention of the visitor is that of the late Senator Ben Hill, the Cobb, Howell and Thomas, and the birthplace of



COURTHOUSE - CLARK COUNTY.

Henry W. Grady, the brilliant orator and present editor of the Atlanta Constitution. All of these grand old places are held in reverence by the older citizens, and they point them out with pardonable pride to the stranger.

One of the needs of the place at this juncture is a hotel building capable of accommodating the traveling public and the many visitors who are attracted to the place during the summer season for health and pleasure. Prominent citizens are ready to contribute liberally to the erection of a hotel to cost \$100,000, as they seem to think a building of that price is an imperative necessity. Several attractive sites in the business part of the city have been offered, and it is thought that one-fourth or one-half the money necessary for the enterprise can be readily interested.

Another need of the place is furniture and woodenware factories. The adjacent forests furnish a limitless supply of oak, hickory, pine and poplar timber, whose cost is nominal, and that might be utilized by some manufacturer with the necessary capital and energy to secure it. Especially along the new lines of railroad, the Macon & Covington, and the Georgia, Carolina & Northern, are these fine forests dense and inviting.

The fruits are grown in abundance in this section. Peaches, apples, pears and the grape flourish here, as they do in nearly

land company recently organized, the daily newspaper, the mercantile and manufacturing interests of the community, and the university corp of teachers.

E. P. SPEER.

A Big Enterprise.

Regarding the sale of 10,000 acres of coal lands near Chattanooga to Col. J. B. Goode, of Dallas, Texas, reported lately in the MANUFACTURERS' RECORD, we have been furnished with the following statement:

"Full and correct surveys of the land have been made and 41 test shafts have been sunk, in 30 of which the very best article of coal was found, in beds of from 8 to 10 feet in depth. These shafts were over various parts of the land, which lies from 9 to 13 miles northwest of Chattanooga and in about 5 miles of the river, lying in both Hamilton and Marion counties. A company with a capital stock of \$500,000 has been formed with Col. Goode at its head, and it is proposed that 10 complete mines shall be put into active operation this fall. These will be so arranged that a dummy line will dump their proceeds into the company's own coal boats on the river, which will deliver coal to all points on the Mississippi river and its tributaries at a very low price. The dummy line will have railroad connection also. Colonel Goode has expressed a determination to put \$1,000,000 into this enterprise if necessary."

The lands alone cost \$100,000, and he is now disposing of a large portion of his Texas lands and Dallas city property for cash, in order to place the company on a firm foundation, financially, from the start. He says that he expects to reach Chattanooga about October 1st to 15th, and that he will then give this business his entire attention. Col. Goode says that he will only purchase the very best machinery of all kinds. This, it is estimated, will cost not less than \$200,000, and will consist of all manner of mining tools and machinery, engines and cars for dummy line and coal boats, and all will be of the best and latest improved stock."

The National Pulley Covering Co., of Baltimore, have lately received the following letter from Messrs. Henry McShane & Co., of this city: "On August 2d we put on two of your 'covers.' The main pulley is



ATHENS BOBBIN MILL - ONLY ONE IN THE SOUTH

Talimage, C. W. Baldwin, R. K. Reeves, A. H. Hodson, F. W. Cheney, G. H. Yancey, W. D. O'Farrell, A. E. Griffith, Prof. H. C. White.

The names of these gentlemen are published by permission. They represent the profession, capitalists, members of the

26 inches diameter, 9-inch belt, making 105 revolutions per minute, and the counter pulley 36 inches diameter, 9 inch belt, making 100 revolutions per minute. We now find that since putting on your covering the main pulley makes 133 revolutions per minute and the counter pulley 120 revolutions per minute."

Alphabetical Index of Advertisers.

A	Abbott, D. S.	36	D	Daft Electric Light Co.	2	Hunting, E. B. & Co.	33	Record Printing House.	49
Abendroth & Root Mfg. Co.	1	Danner, A. C.	33	Hyndman, W. G. & Co.	52	Reliance Gauge Co.	5		
Adams, S., & Sons.	2	Davidson Steam Pump Co.	3	I	Illuminating & Fuel Gas Co.	57	Richardson, W. A. & Co.	9	
Adams & Price Locomotive & Machine Works.	42	Dean Bros. Steam Pump Works.	58	Indiana Machine Works.	6	Richmond City Mill Works.	45, 53		
Addyston Pipe & Steel Co.	59	Decatur Land, Imp. & Furnace Co.	10	Ingersoll-Sergeant Rock Drill Co.	1	Richmond Locomotive & Machine Works.	42		
Aerated Fuel Co.	57	Defiance Machine Works.	*	"Inventor".	32	Richmond Lubricant & Mica Milling Co.	42		
Aitchison, Robt., Perf. Metal Co.	45	De Loach Mill Mfg. Co.	*	J	Jarvis Engineering Co.	4	Richmond Machine Works.	51	
American House.	34	Denison, Texas.	21	Jeffrey Mfg. Co.	32, 44, 47	Richmond Standard Spike Co.	42		
American Supply Co.	3	Detrick & Harvey.	51	Jenkins Bros.	58	Riche Bros.	2		
Andress, Thomas J.	52	Detroit Saw Works.	9	Johnson, R. M.	52	Robinson, Wm. C. & Son.	56		
Anniston City Land Co.	18	Devilbiss & Co., Thos.	49	Johnson, Shroyer & Co.	33	Robinson & Orr.	4		
Arctic Ice Machine Mfg. Co.	60	Diamond Machine Co.	44	Joyce, Cridland & Co.	33	Rochester Machine Tool Works.	4		
Arnold, D. J. C.	41	Diamond Prospecting Co.	40	K	Kaestner & Co., Chas.	41	Rogers, H. A.	3	
Asbury & Grieder.	30	Dietz, Bernhard.	36	Kaaneberg Roofing Co.	53	Rogers & Co., C. B.	6		
Ault & Viborg.	55	Dillard & Walton.	17	Keeler Co.	5	Rogers, Saml. C., & Co.	44		
Austin, F. C., Mfg. Co.	59	Dirigo Engine & Machine Co.	36	Kilbourn & Jacobs Mfg. Co.	60	Rollstone Machine Co.	44		
B	Babcock & Wilcox Co.	5	Dissont, Henry, & Sons.	8	Knoxville Car Wheel Co.	42	Rome Foundry & Machine Works.	44	
Babcock, H. H., Treas.	9	Dixons, Jas., Crucible Co.	46	Ross, Josiah.	9	Ross, Josiah.	7		
Baldwin Locomotive Works.	43	Dolph, A. M., Co.	59	Rouse, R. K.	*	Rovilev & Hermance.	17		
Ball Engine Co.	5	Draper, Geo. & Sons.	10	Russell Wheel & Foundry Co.	*	Russell Wheel & Foundry Co.	*		
Baltimore Stor. & Light. Co.	34	Druif Felt Co.	53	Ryan Co., Jno.	55	Ryan & McDonald.	40		
Barclay & Crockett.	17	Dufur & Co.	52	Ryder & Dearth.	54	S	Santley, W. R., & Co.	44	
Barkdale, Wm. R.	51	Du Quoin Iron Works.	*	Saunders, D., Sons.	59	Sawyer-Man Electric Co.	*		
Barnes, W. F. & John, Co.	43	E	Eagle Iron Works.	44	Saxton, J. C.	51	Scott & Co.	52	
Barry, W. B., Saw & Supply Co.	*	Karle, T. K., Mfg. Co.	9	Seoval & Irwin Construction Co.	33	Sebastian, May & Co.	*		
Bates, Jas.	47	Easton & Burnham.	9	Security Mutual Benefit Society.	53	Sedgwick Bros.	*		
Bay Line.	30, 54	Eclipse Pump Mfg. Co.	*	L	Ladd, Alfred W.	51	Seylert, L. F.	*	
Bay Ridge.	54	Eclipse Wind Engine Co.	37	Laidlaw & Dunn Co.	58	Sheffield Land, Iron & Coal Co.	51		
Beach, H. L.	47	Eddy, Chas. G.	17	Landis, Ezra F.	50	Shepard Hardware Co.	40		
Beckett Foundry & Machine Co.	4	Edmonds, Elias.	45	Lane & Bodley Co., The.	37	Shepard, H. L.	44		
Beldens Machine Co.	44	Egan Co., The.	7	Lathe & Morse Tool Co.	43	Shields & Brown Co.	*		
Bentel & Mardonant Co.	50	Electric Fare Box Co.	33	Leffel, Jas. & Co.	*	Shimer, Samuel J.	*		
Berger Mfg. Co.	53	Electric Power Pub. Co.	8	Lehman-Evans Machine Co.	*	Shrubby, Chas. J., & Co.	33		
Bessemer Land & Imp. Co.	39	Ellicott Machine Co.	*	Lidgerwood Mfg. Co.	3	Shultz Belting Co.	33		
Bickford Drill Co.	*	Empire Paint & Roofing Co.	53	Liggett Clay Pigeon Co.	39	Sigourne Tool Co.	44		
Billings & Spencer Co.	43	Employers' Liability Assurance Corporation.	49, 55, 57	Lincoln Iron Works.	36	Silver & Deming Mfg. Co.	58		
Birdsall Co.	5	Eric Railways.	55	Link Belt Engineering Co.	48	Simpkin & Hillier.	56		
Black, Jno. L.	39	Estep, F. A.	51	Lockwood, Greene & Co.	30	Skinner Engine Co.	*		
Blake Mfg. Co., The Geo. F.	58	E. T. Va. & Ga. Ry.	55	Lodge, Davis & Co.	51, 52	Smith, H. B., Machine Co.	4		
Blakeslee Mfg. Co.	58	E. T. Va. & Ga. Ry.	44, 47, 54	Lombard, Geo. R. & Co.	51	Smith, H. A. V.	6		
Bliss, E. W., Co.	48	Evens Friction Cone Co., The.	37	Long & Alstatte Co.	48	Smith, Jas. & Co.	9		
Bluffton, Ala.	38	F	Fabels', F. Sons.	50	Lowe & Tucker.	47	Smith, Jas. & Co.	9	
Boggs & Clarke.	58	Fall River Spool & Bobbin Co.	9	Lowell Machine Shop.	*	Smith, R. C.	47		
Bokop, H. D.	*	Fay, J. A. & Co.	7	Lowell Steam Boiler Works.	44	Smith, S. Morgan.	47		
Bookwalter Steel & Iron Co.	5	Forsaith, S. C., Machine Co.	6	Ludlow Saylor Wire Co.	52	Smith & Vail Co.	38		
Boomer & Boscourt Press Co., The.	30	Fort Payne Coal & Iron Co.	23	Ludlow Vaive Mfg. Co.	59	So. Fla. Foundry & Machine Co.	50		
Boyle, David.	8	Foundry & Machine Department Harrisburg Car Mfg. Co.	4	Lynchburg Land Co.	17	Southwark Foundry & Machine Co.	50		
Bradley & Co.	45	Frank & Co.	*	M	Makepeace, C. R. & Co.	30	Sprague Elec. Ry. & Motor Co.	48	
Bradstreet Co.	54	Frick Co.	4	Magnolia Anti-Friction Metal Co.	43	Springfield Glue & Emery Wh' Co.	44		
Bray & Nickerson Auto. Gage Glass Co.	44	Fritz, Geo. J.	*	Marquette, John N.	27	Standard Dry Kiln Co.	*		
Brown, Alex., & Sons.	30	Fulton Iron & Engine Works.	*	Martin, Henry, Brick Mch. Mfg. Co.	*	Standard Mfg. Co.	6, 50		
Brown Electric Co.	60	G	Fabrics, F. Sons.	50	Maryland Tack Co.	*	Standard Oil Fuel Burner Co.	57	
Buckeye Engine Co.	60	Farnell, F. Sons.	50	McGowan, The Jno. H. Co.	*	Standard Scale Co.	*		
Buckeye Iron & Brass Works.	*	Farr, J. & Co.	*	McLanahan & Stone.	*	Standard Tool Co.	*		
Bucyrus Fdry. & Mfg. Co.	3	Fatherly & Sherwood.	*	Mengel, Jno. G. & Co.	*	Starz, B. F. & Co.	60		
Buffalo Forge Co.	60	Fisher, E. W.	47	Merrill, Fred. J., Mfg. Co.	49	Steam Stone Cutter Co.	53		
Buffalo Steam Pump Co.	58	Fishkill Landing Machine Co.	3	Middleton, Oliver & Co.	*	Stearns, E. C. & Co.	*		
Bullock, M. C., Mfg. Co.	40	Florence, Ala.	41	Milburn, G. & Machine Co.	*	Stephenson, John, Co. (Limited).	45		
Burton, F. C., & Co.	43	Foley, J. T. & Co.	5	Minster, Fred. W.	*	Stieff, Chas. M.	53		
Butterworth, H. W. & Sons.	9	Fort Payne Coal & Iron Co.	23	Moore, F. H.	40	Stiles & Parker Press Co.	*		
Byrnes, M. A.	9	Foundry & Machine Department Harrisburg Car Mfg. Co.	4	Moore & White Co., The.	37	Stillman House.	55		
C	Caldwell, H. W.	57	Frank & Co.	*	Morris Machine Works.	45	Stillwell & Bierce Mfg. Co.	57	
Cambridge Roofing Co.	53	Frick Co.	*	Morrison, Robert.	5	St. L'uis Vise & Artisan Well Tool Co.	*		
Cameron, A. S., Steam Pump Wks.	59	Fritz, Geo. J.	*	Morse, Williams & Co.	*	Stokes & Parrish Machine Co.	*		
Canning, Reginald & Co.	51	Fulton Iron & Engine Works.	*	Morton, Reed & Co.	*	Stratton Separator Co.	*		
Canton Steel Roofing Co.	53	G	Haines, Jones & Cadbury Co.	47	Munson Bros.	*	Sturtevant, B. F.	*	
Carey, Thos. K. & Bros.	2	Gates Iron Works.	40	Murray, Jas. & Son.	41	The Telescoeter Co.	*		
Carlisle Mfg. Co.	36	Glomorgan Co., The.	59	Myers, F. E. & Bro.	53	Thompson Mfg. Co.	*		
Carter, Jno. S.	52	Glen Cove Machine Co., (Lim.).	6	N	National Pulley Covering Co.	43	Thompson-Houston Electric Co.	*	
Casey Boiler Mfg. Co.	51	Globe Iron Roof. & Corrugating Co.	53	Newberne, N. C.	27	Tiffi, Geo. W. Sons & Co.	*		
"Cash".	8	Globe Machine Works.	*	New York Belting & Packing Co.	36	Titus & Babcock.	4		
Castle Engine Works.	52	H	Page Belting Co.	46	New York Equipment Co.	51	Todd Pu'ley & Shafing Works.	37	
Chalmers-Spence Co.	*	Hall, Amos H.	48	Parsons, S. L.	39	Tompkins Co., D. A.	*		
Chambers Brothers Co.	43	Haralson & Logwood.	5	Pen-Mar.	45	Trevor & Co.	8		
Chandler & Taylor.	4	Harrington, E., Son & Co.	52, 54	Pennsylvania Steel Co.	54	U	Tanis Co.	*	
Charlotte, Va.	37	Harrington & King Perforating Co.	8	Perso & Co., W. Edwin.	49	Taper-Sleeve Pulley Works.	*		
Chattanooga Foundry & Pipe Wks.	59	Harris, A. W., Oil Co.	*	Pettee Machine Works.	45	Tarbo Oil M. I. Ls.	44		
Chattanooga Saw Works.	60	Harris, J. W.	32	Phoenix Iron Foundry.	*	Taylor Mfg. Co.	*		
Chattanooga Paint Co.	48	Harris, Wm. A., Steam Eng. Co.	4	Phoenix Iron Works.	*	The Telchester Co.	*		
Chesapeake Belting Co.	46, 51	Harrison Safety Boiler Works.	56	Phenix Incandescent Lamp Co.	33	Thompson Mfg. Co.	*		
Chester Steel Castings Co.	42	Hartford Steam Boiler Inspection & Insurance Co.	53	Phosphor-Bronz Smitg. Co., (Lim.).	49	W	Valley Pump Co.	*	
Chicago Rawhide Mfg. Co.	8	Hawthorne, J. & Co.	*	Piedmont Air Line.	54	Van Dusen Gas Engine Co.	58		
C. H. & D. R. R.	54	Hedges, F. R.	*	Pierce, Butler & Pierce Mfg. Co.	52	Van Dusen & Tift.	47		
Cincinnati Corrugating Co.	53	Hewitt, F. R.	50	Place, George.	4	Van Noorden, K. & Co.	53		
Clark, Geo. P.	52	Higdon & Higdon.	33	P. O. Box 70.	31	Van Nuis, C. S.	30		
Clark, Jeremiah.	9	Hill Bevel Co.	36	Poor, H. V. & H. W.	45	Van Wagoner & Williams Co.	58		
Cleveland & Hardwick.	4	Hill Clutch Works.	37	Porter, H. K. & Co.	48	Van Winkle Gin & Machinery Co.	30		
Cleveland City Forge & Iron Co.	10	Hine & Robertson.	*	Powell, A. G. & Co.	44	Vulcan Iron Works.	30		
Cleveland Twist Drill Co.	*	Holmes, E. B. & Son.	7, 44	Pratt, J. H.	47				
Cos & Wilkes.	*	Holton Iron Roofing Co.	53	Prestiss Tool & Supply Co.	53				
Colligan, Victor.	45	Hoops & Townsend.	43	Prylbd, P.	45				
Cole, W. H.	30	Houston, Levi.	*	Pulrometer Steam Pump Co.	38				
Colonade Hotel.	55	Hughes Steam Pump Co.	45						
Commonwealth Construction Co.	56	Hunt & Robertson.	*						
"Compre".	5	Hughes Steam Pump Co.	45						
Continental Iron Works.	5	Hunt & Connell.	*						
Contractors' Plant Mfg. Co.	43	Hunt, Rodney, Machine Co.	*						
Copeland & Bacon.	40								
Cordesman Machine Co.	36, 50								
Cordesman, Meyer & Co.	7								
Covett Mfg. Co.	49								
Crompton Loom Works.	9								
Cronk Hanger Co.	*								
Curtis Regulator Co.	5								

Advertisements marked * are inserted every other week, and do not appear in this issue.

CARLISLE MFG. CO.
Cars, Engines, Frogs
AND SWITCHES,
CARLISLE, PA.

ROCK DRILLS
AIR COMPRESSORS &
GENERAL MACHINERY FOR
MINING, TUNNELING,
QUARRY & RAILROAD WORK.

RAND DRILL CO., 22 PARK PLACE, NEW YORK.

DIRICO
Engine AND Machine Co.

Automatic AND Throttling Engines
STEAM PUMPS, etc.
AND DEALERS IN
Boilers, Water Wheels, Saw Mill, Wood-
Working, Stave and Barrel Machinery.

25 H. P. Engine, all complete, \$250
50 " " " " " 450

We can quote lower prices than any other firm in the United States on all kinds of machinery in our line, owing to our excellent shipping facilities.

We can give you low rates of freight, and will quote prices on machinery delivered at your nearest railroad station.

Write us in regard to your wants, and we will save you money.

FOR THE BEST AND
LOWEST PRICED
GANG LATH MILL
AND BOLTER COMBINED
ADDRESS
D. S. ABBOTT, OLEAN N.Y.

LINCOLN IRON WORKS,
MANUFACTURERS OF
MACHINERY
For Working and Handling
MARBLE & STONE

Send for Illustrated Catalogue, free.
Rutland, - Vermont.

BERNHARD DIETZ, Manufacturer of Printers' Rollers and Roller Composition, Factory, N. E. Cor. Grant and Mercer Sts., Baltimore. Prices: Composition (bulk) 20 cents per pound; for casting, a. so 30 cents per pound. Orders by mail promptly attended.

WHAT YOU HAVE LONG SOUGHT!
THE "BOSS" FLUSH T-BEVEL
A BOSS
DESCRIPTION - Disc attached to blade in marked 8 for Square (in.), 8 for Triangle, 10 for Octagon (in.), 12 for Hexagon (in.), 14 for Mitre (in.). Move to mark desired, lock by pressing button on side and fasten by turning thumb-nut.
PRICE: 50 in. size. \$1.50.
Postage prepaid.
THE HILL BEVEL CO., MANCHESTER, CONN.



COPYRIGHTED BY H. W. HILL, 1889.

HILL
Clutch Works,
CLEVELAND, OHIO.

NEW YORK: 18 Cortlandt Street.

CHICAGO: MINNEAPOLIS:
28 S. Canal Street. 306 Kasota Bldg.
KANSAS CITY, MO.:
1221 Union Avenue.

POWER PLANTS

Designed, Erected and Furnished.

Send for new Catalogue, Power Transmission Machinery.



The MOORE & WHITE CO.

1312 Buttonwood St., PHILADELPHIA, PA.

Friction Clutches, &c.

Cut-Off Couplings, &c.

Paper Mill

Machinery, &c.

**SHAFTING, HANGERS,
AND PULLEYS A SPECIALTY.**

FIRST-CLASS IN EVERY RESPECT.

Send Specifications for Estimates before Contracting.

THE LANE & BODLEY CO.
2 to 44 JOHN ST., CINCINNATI, O.



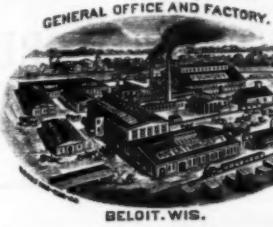
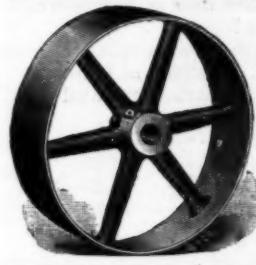
Machine Molded Pulleys, Hangers, Boxes

COUPLINGS AND SHAFTING.
FIRE FRONTS, HEAVY MACHINE CASTINGS
OF ALL DESCRIPTIONS.

HOISTING AND TRANSMISSION SHEAVES.

Get Our Prices Before Purchasing.
Estimates given on Pulleys and Band Wheels to 10 feet in diameter. Send for Catalogue.

TODD PULLEY AND SHAFTING WORKS
EAST ST. LOUIS, ILL.



GENERAL OFFICE AND FACTORY.

BELoit, WIS.

**ECLIPSE FRICITION CLUTCH PULLEYS
AND CUT-OFF COUPLINGS.**

SEATTLE, WASHINGTON TEE., 5 26, 1889.

Eclipse Wind Engine Co., Beloit, Wis.
DEAR SIRS: The Clutch Pulley (diam. 106 in., face 21 in) works satisfactorily in every particular, and is a great convenience. We have two, and can stop either the main saws or the gang edger, or both whenever desired, without stopping the engines. Yours respectfully,

Yesler Wood, Coal & Lumber Co.,
J. D. Lowman, Sec'y.

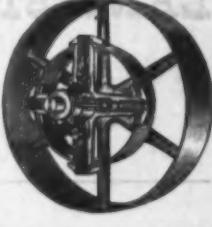
ST. JOSEPH, MO., June 24, 1889.

Eclipse Wind Engine Co., Beloit, Wis.
GENTLEMEN: The Clutch Pulley reached us all right; it works to a charm. If we had put it on last April, in place of one we had, we should now be ahead over \$300, which we have lost in time and breakages. Yours,

The Brick & Terra Cotta Mfg. Co.,
F. P. Halsey, Sec'y.

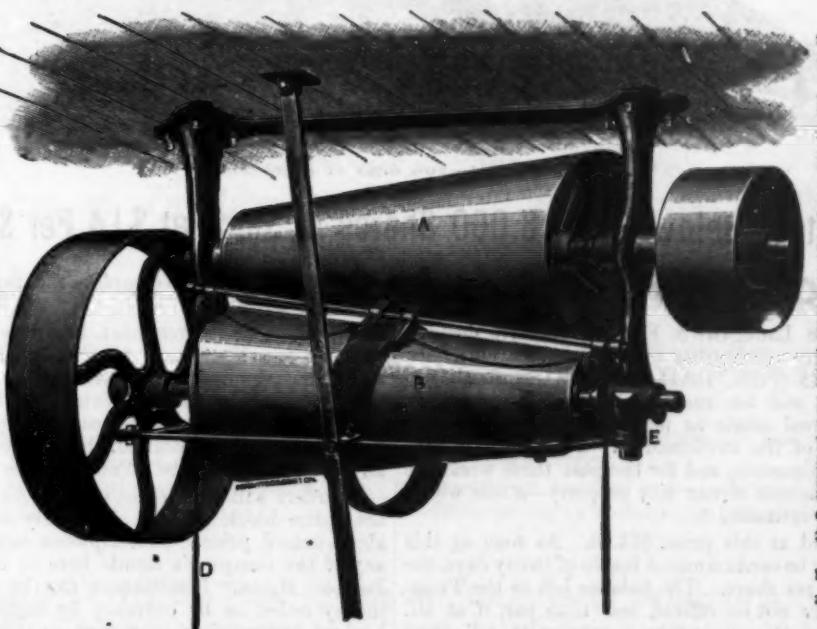
ECLIPSE WIND ENGINE CO., - Beloit, Wis.

Send for July, 1889 catalogue, and see where and by whom they are used.



THE EVANS PATENT FRICTION CONES
FOR CHANGING AND REGULATING THE SPEED OF MACHINES.

The speed can be varied while the machine is running, or the machine stopped by simply turning a band wheel or moving a shipper. Straight faced frictions on the same principle of a loose belt can be used to couple auxiliary power, or made to run power pumps. They are efficient and noiseless, and give operator entire control of machine. Send for illustrated catalogue to



The following parties are using our Cones:

Acme Machinery Co. Cleveland, Ohio.
S. D. Warren & Co. Cumberland Mills, Me.
Portland Locomotive Works Portland, Me.
Syme & Dudley Paper Co. Holyoke, Mass.
Pratt & Whitney Co. Hartford, Conn.
Mason Locomotive Works Taunton, Mass.
Euclid Paper Co. Lawrence, Mass.
Rice & Co. Wire Cloth Works Lowell, Mass.
Hawthorne Paper Co. Haworth, Mass.
Wilson, Case Co. Philadelphia, Pa.
Fall Mountain Paper Co. Bellows Falls, Vt.
Chase & Co. Boston, Mass.
Waltham Emery Wheel Co. Waltham, Mass.
Rice, Barton & Fales Machine & Iron Co. Worcester, Mass.
Parsons Paper Co. Holyoke, Mass.
Hollingsworth & Vose. Groton, Mass.
Hollingsworth & Whittemore. Gardner, Mass.
J. D. Dennison. Detroit, Mich.
Kittson Machine Co. Lowell, Mass.
Merrimac Mfg. Co. Lowell, Mass.
Troy Cotton Woven Co. Pi River, Mass.
Plymouth Woolen Co. Plymouth, Mass.
P. A. Dowd & Co. New York, N. Y.
John Cochran, Jr. Malden, Mass.
Holyoke Hydrant & Iron Works. Holyoke, Mass.
French & Ward. Stoughton, Mass.
Lowell Bleachery. Lowell, Mass.
Pacific Mills. Lawrence, Mass.
Washburn & Moen Mfg. Co. Worcester, Mass.
Geo. W. Paine. Providence, R. I.
American Tool & Machine Co. Boston, Mass.
Wilkinson Bros. Birmingham, Conn.
These embrace Cones of various sizes and patterns, and ranging from 1 to 50 horse power.

THE EVANS FRICTION CONE COMPANY,

85 WATER STREET, BOSTON, MASS.

200,000,000 TONS OF BROWN IRON ORE

IN SIGHT AT

BLUFFTON,

HIGH, HEALTHY AND HONEST.
GOOD PEOPLE AND GOOD WATER.

It is impossible to describe by words the enormous quantity of iron ore that is in sight on the land of this company. Said a prominent railroad man of the South: "I could not believe your statement as to the quantity, (200,000,000 tons in sight), but now that I have seen your ore deposits, I wonder how you put so low an estimate on them."

Prof. Robinson, of Bowdoin College, Brunswick, Maine, says: "I found at Bluffton iron ore in abundance, partly in solid cliff masses containing hundreds of thousands of tons, and partly in the form of gravel and small boulders lying in great banks similar in appearance to the gravel banks of New England. Whether there was as much of the gravel as of the bluff ore I could hardly judge, but it was very clear that the quantities of both were simply enormous."

G. S. Patterson, mining engineer, of Anniston, Ala., reports: "The amount of ore in sight was certainly beyond my expectation, though I was prepared to find a large deposit. The Bluff, as it is called, is a solid mass of ore on the side of a mountain, easily approachable, and can be mined cheaper than at any point in Alabama or Georgia, with which I am familiar."

Mr. Wm. H. Edmonds, of the Manufacturers' Record, says: "As to

the quantity of ore here, I don't suppose that all the furnaces in Alabama could use it up in a lifetime."—See Manufacturers' Record May 18, 1889, article entitled "BILL ARP AND BLUFFTON."

Ore can be delivered at furnaces built here at a cost not exceeding 50 cents per ton.

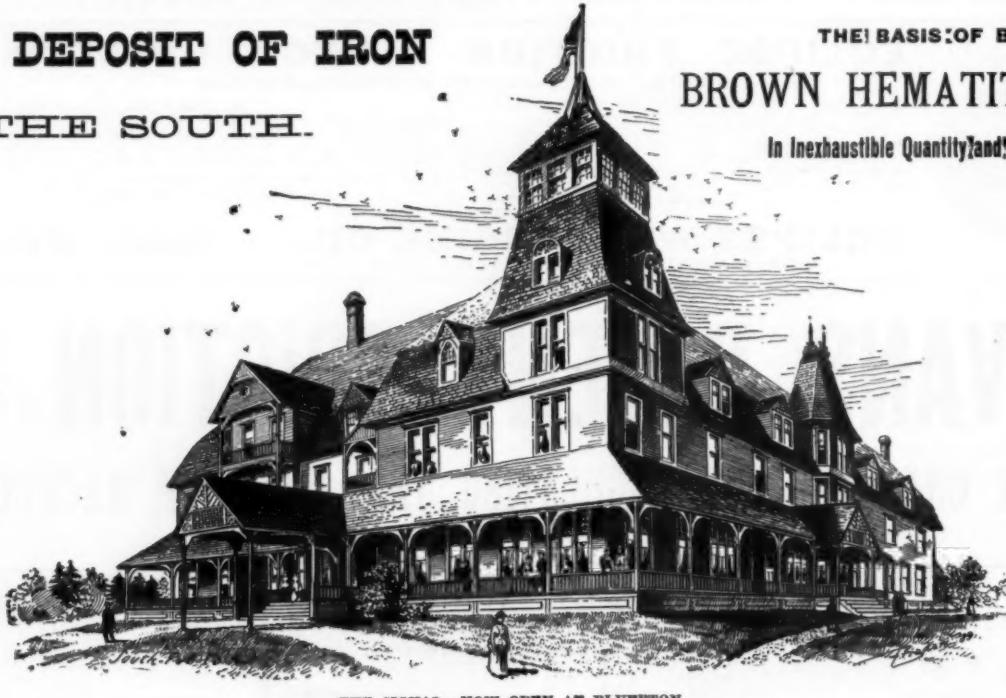
With high grade ores, analyzing over 50 per cent. metallic iron, delivered at the furnace at the above-named price, is there any possibility of such a place as Bluffton not being able to produce iron at figures which will yield a profit despite the dullest of dull times?

Prof. J. H. Pratt, of Birmingham, Ala., reports on samples selected from our property by Mr. Edmonds and Mr. G. S. Patterson as follows:

The sample of brown iron ore, marked "Bluff Ore," contains—	The sample marked "Gravel Ore" contains—
Metallic iron, - - - 52.37 per cent.	Metallic iron, - - - 53.23 per cent.
Phosphorus, - - - 0.782 "	Phosphorus, - - - 0.931 "
Silica, - - - 14.60 "	Silica, - - - 6.25 "
Water combined, - - 8.10 "	Water combined, - - 10.20 "
Moisture at 100° C - 2.50 "	Moisture at 100° C - 1.68 "

LARGEST DEPOSIT OF IRON IN THE SOUTH.

Ore can be delivered at furnaces built here at a cost not exceeding 50 cents per ton.



THE BASIS OF BLUFFTON:

BROWN HEMATITE IRON ORE

In Inexhaustible Quantity and Excellent Quality.

Located on the Selma Division of the East Tennessee, Virginia & Georgia Railway, midway between Rome and Anniston, and only two miles and three-fourths from the East & West Railroad, of Alabama.

A Dividend-Paying Stock Below Par. 8,000 Shares of Stock at \$14 Per Share—Par Value \$25.

PRICE OF STOCK:

The directors of the Bluffton Land, Ore & Furnace Co. have decided to offer to investors 8,000 shares (\$112,000) of its treasury stock for the purpose of building a 100 TON DAILY CAPACITY COKE IRON FURNACE at Bluffton, and for such other improvements and purchase of other unimproved real estate as may be considered by the directors for the best interests of the stockholders. This stock is now paying six per cent. from ore shipments, and for the past three weeks we have netted over \$20,000 from the sale of our city property—a sale which is larger by 20 per cent. than our estimate.

Only 8,000 shares will be sold at this price, \$14.00. As soon as this block is sold, which will probably be consummated inside of thirty days, the price will be advanced to \$20.00 per share. The balance left in the Treasury after this sale will probably not be offered less than par, if at all. Judging from present indications, it will not be necessary to sell more than the present block, as receipts from ore shipments and sales of real

estate will be ample to complete the furnace and make all improvements now contemplated.

Such a safe investment has never been offered—a dividend paying stock for less than par. Absolutely safe—cannot be assessed. Fully paid up in the organization. Work will be commenced on the furnace as soon as \$30,000 is subscribed on this sale. Persons desiring to purchase larger blocks than their present means will permit, can make a payment of one-half of the amount desired, the balance to be paid in thirty days. Blanks for subscription will be furnished from this office direct.

Orders will be filled in rotation for 1, 5, 10, 50, 100 or 1,000 shares till the entire block is sold. Positively only 8,000 shares will be sold at the above-named price. Subscriptions can be made direct to this office, or to any of the company's agents here or in New York, Chicago, Boston and Bangor, Maine. Remittances can be made by New York draft, express money order, or by currency by registered letter. We can furnish the highest testimonials in regard to this property from business men and experts who have visited it from all parts of the Union.

SEND FOR PROSPECTUS. ADDRESS

Bluffton Land, Ore & Furnace Company, Bluffton, Ala.

Ex-Mayor ABRAM S. HEWITT, of New York, says this section of Alabama "is the only place upon the North American Continent where it is possible to make iron in competition with the cheap iron of England."

BUSINESS POINTS

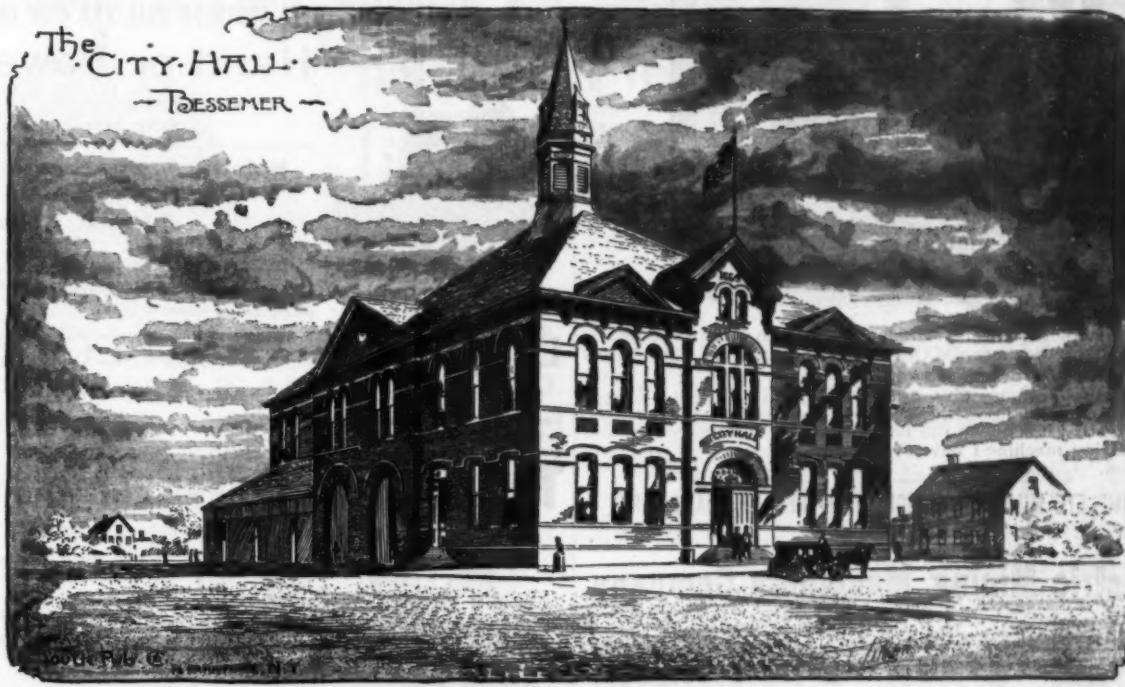
ABOUT

BESSEMER CITY, ALA.

WORTH CONSIDERING BY BUSINESS MEN.

COTTON MANUFACTURING.

With the Cotton growing near the mill; at the present cost of spindles in position; spacious sites costing nothing; coal delivered to mills at \$1.25 per ton; modern steam machinery with its minimum consumption of fuel, Bessemer offers marked advantages.



Bessemer's Iron Foundations.

First.—The DeBardeleben Coal & Iron Company—Two furnaces in blast; two batteries of 170 coke ovens each—340. Extensive coal and iron mines, limestone rock, etc., in active operation. Furnaces situated within the city limits, occupying 160 acres of land—enough for multiplied extensions. Average output 225 tons daily.

Second.—The Bessemer Steel & Iron Company—Two furnaces go in blast December, 1890; two batteries of 200 coke ovens each. Extensive coal and iron mines, limestone rock, etc., in active operation. Furnaces situated within the city limits, occupying 100 acres of land—enough for multiplied extensions. Average output 225 tons daily.

Third.—The Little Belle Iron Company—To go in blast December, 1890. One charcoal furnace, situated within the city limits, occupying 50 acres of land, enough for multiplied extensions. Average output 60 tons daily.

Fourth.—The Bessemer Rolling Mills—Situated within the city limits, occupying 18 acres of land. When running full works 700 hands. One hundred tons possible daily output.

Fifth.—In addition to the coal and iron mines above referred to, in connection with the five furnaces, these proprietors own the MAGNETIC ORE LAND COMPANY. The total coal, iron and limestone lands owned by these corporations amount to over

200,000 ACRES.

The EARLIEST SELECTED and choicest lands in Alabama, all directly tributary to the City of Bessemer, representing, with furnaces, rolling mills, etc., an aggregate of \$3,000,000, not including other lines of business.

Iron Manufacturers in Bessemer will have a direct advantage of \$2.50 to \$3 per ton on the cost of Pig Iron, compared with Pennsylvania Prices.

TRANSPORTATION EVERYWHERE UNEXCELLED.

The Queen & Crescent Line—Cincinnati to New Orleans.

The Louisville & Nashville Lines.

The Georgia Pacific and Danville Lines.

The Kansas City, Memphis & Birmingham Line.

The Birmingham & Bessemer Railroad runs trains every hour to Birmingham.

The Bessemer & Huntsville is completed as far as Chepultepec.

The Bessemer & Tuscaloosa is completed to Woodstock, a distance of thirty miles, lacking only eighteen miles of reaching Tuscaloosa.

The Bessemer & Selma has been surveyed and grading will soon commence.

The Mobile & Bessemer, an extension of the East Tennessee, Virginia & Georgia, is in process of rapid construction.

The Sheffield & Bessemer is projected to Bessemer. It is now built as far as Jasper, forty miles northwest.

The Birmingham, Powderly & Bessemer Street Railway, Bessemer to Birmingham, will be running by November 1st, half the line being now graded.

WOOD-WORKING INDUSTRIES—The primeval forests of Alabama, tributary to Bessemer, offer manifold attractions to Wood-Working Manufacturers.

CORRESPONDENCE SOLICITED. For particular information as to price of lots, manufacturing sites and inducements to establishing plants in this unrivaled locality, address

H. M. McNUTT, Secretary.

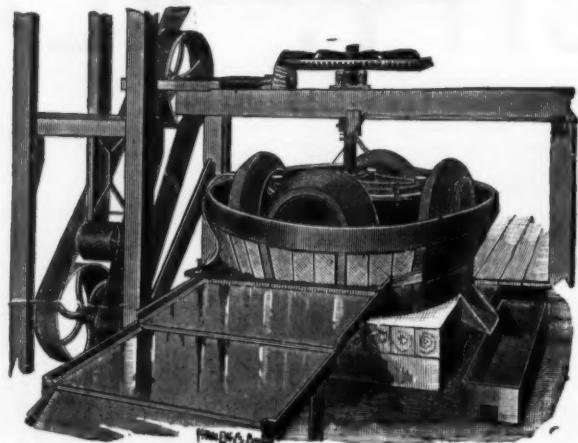
H. M. McNutt

President

* WISWELL *

Ore Pulverizer and Amalgamator

COMBINED.



The following testimonial from Mr. Marsden, of the firm of Farrel & Marsden, manufacturers of Stone Breakers and Ore Crushers, Ansonia, Conn., speaks volumes for the Wiswell Mill:

Wiswell Electric Mining Machinery Co.:

GENTLEMEN—After carefully inspecting your mill and seeing it in operation, I do not hesitate to say that it is one of the best, if not the best pulverizer and most complete gold-saving machine I have ever seen. Please accept congratulations for your success.

S. L. MARSDEN.

WE FURNISH A COMPLETE MILL FOR \$2,500, DELIVERED ON BOARD CARS.

FOR FURTHER INFORMATION ADDRESS

Wiswell Electric Mining Machinery Company,
4 POSTOFFICE SQUARE,
A. A. REEVE, Treasurer. BOSTON, MASS.

BUY THE BEST.

Bullock's Diamond Prospecting Core Drills,

For Surface or Underground Prospecting.
The Only Drills that will give an Accurate Record
of every Strata Penetrated.

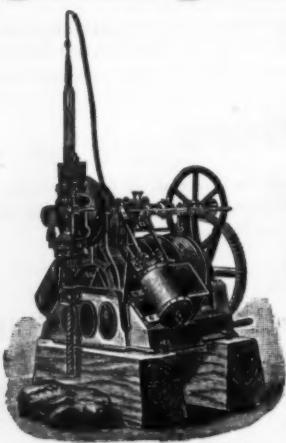
ALL DRILLS SOLD WITHOUT RESTRICTIONS.

Lane's Band Friction Hoisting Machinery
Drums from 2 Feet to 25 Feet in Diameter.

Improved Corliss Engines,
Slide Valve and Straight Line Engines,
Eclipse Rock Drills, Air Compressors,
Channeling and Quafring Machines.

M. C. BULLOCK MFG. CO.
No. 138 Jackson Street,
Write for what you want. CHICAGO.

Cable Address: BULLOCK, CHICAGO.



Diamond Prospecting Drill.

THE Wardwell Stone Channeling
AND

Quarrying Machine.

WILL pay for itself in a short time in reduced cost of getting out Stone. Has no equal for efficiency and economy of operation. Pronounced by those who have used it the best machine for the purpose in the world. Send for illustrated catalogue, with full descriptions and letters from parties now using the machines.

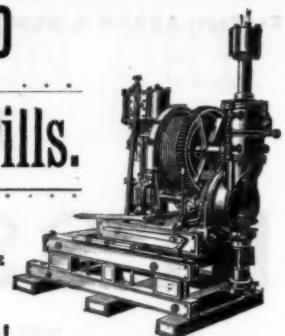
Steam Stone Cutter Co.
RUTLAND, VERMONT.



SULLIVAN DIAMOND

Prospecting Core Drills.

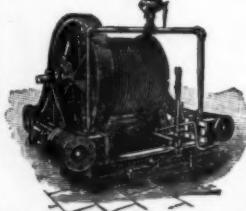
THE MOST RELIABLE AND
SATISFACTORY MADE FOR PROSPECTING FROM THE
SURFACE OR UNDER GROUND.



RAPID! ACCURATE! ECONOMICAL! "N" Drill—Capacity 2,000 feet.

SPECIALLY ADAPTED TO SOUTHERN COAL AND IRON FORMATIONS.

Hand or Power Drills,



Capacities 300 to 4,000 feet. All sizes in stock.

SEND FOR CATALOGUE.

**Hoisting and Hauling Engines,
Exploring Hoists, Steam
Pumps. Boilers.**

Underground Haulage by Wire Rope a specialty. Estimates furnished on complete plants. Contractors for prospecting mineral lands with the Diamond Core Drill.

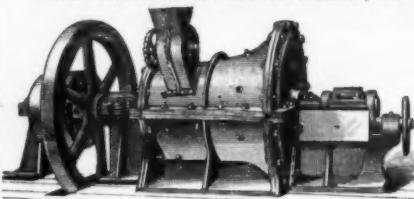
DIAMOND PROSPECTING CO.

74 and 76 W. Lake Street,
Eastern Office, 18 Broadway, New York.
Cable Address, "DIAMOND, CHICAGO."

CHICAGO, ILL.

The Greatest Pulverizer in the World.

Pulverizes from 10 to 160 mesh fineness, and has a capacity of 1 to 3 tons per hour.



Better than burr mills for pulverizing Phosphates, Plumbago, Cement, Foundry Facings, Iron for Paints, Gold and Silver Ores, Flint Rock for Glass, Coke for Carbons, Paints, Asphalt Materials, Feldspar, Red Ochre, Sandstone, Limestone and Calcined Lime. Correspondence solicited. Send for samples of different products.

F. H. MOORE,
Manufacturer,

48 City Hall Bldg., Cleveland, O.



Gates Rock and Ore Breaker

CAPACITY IN TONS OF 2,000 POUNDS.

Size 0—2 to 4 tons per hour	Size 4—15 to 30 tons per hour
.. 1—4 to 8 "	.. 5—10 to 40 "
.. 2—6 to 12 "	.. 6—12 to 60 "
.. 3—10 to 20 "	.. 7—10 to 75 "

Passing 2 1/2 in. ring, according to character and hardness of material.

Great SAVING in POWER. Adjustable to any Degree of Fineness.

The principle involved in this Breaker acknowledged to be the greatest success ever introduced into Stone Breaking Machinery.

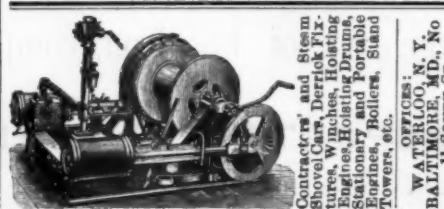
Send for Catalogue, containing over 500 references of Contractors, Miners, Railway Companies, Cement Makers, etc.

GATES IRON WORKS,

50 S. CLINTON ST., CHICAGO, U. S. A.

12 Cortlandt St., New York, U. S. A.

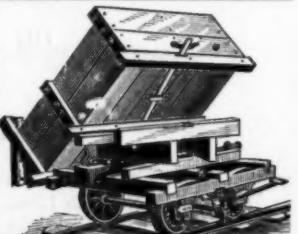
73a Queen Victoria St., E. C. London, Eng.



Manufactured by **RYAN & McDONALD,**
Shops and Warehouses, WATERLOO, N. Y.

Send for Illustrated Catalogue and Prices. All correspondence should be addressed to Waterloo office.

OFFICES: WATERTON, N. Y.
BALTIMORE, MD., NO.
11 South St.



BACON WINDING ENGINES,
FURNACE HOISTS,
MINE HOISTS.

(With or Without Boilers.)

"MINING PLANTS," Concentrating Works and Dredging Machinery Furnished Complete.

COPELAND & BACON

55 Liberty Street, New York.
353 Arch Street, PHILADELPHIA.

REFERENCES:—Crotton Magnetic Iron Mines, Brewster's, N. Y. Crown Point Iron Co., Crown Point, N. Y. Belvidere Iron Co., 52 Broadway, New York. Sea Island Chemical Co., Beaufort, S. C.

DAVIDS' PATENT DISINTEGRATING MILL

For Bones, Phosphates, Tankage, Ores, Clay, Fish Scrap, Salt Cake, &c. Fertilizer Machinery, Mixers' Rolls, Breakers, &c., &c. Marine Railways, Clay Temperers. Send for Catalogue.

JAMES MURRAY & SON, 102 to 108 York Street, Baltimore, Md.

McLANAHAN & STONE, Engineers and Manufacturers,

GAYSPORT FOUNDRY, HOLLIDAYSBURG, PA.

Blast Furnace, Rolling Mill and Heavy Castings and Machinery for all purposes.

ORE JIGS, IMPROVED ORE WASHERS,

with Revolving Screens and Pickling Tables.

Elevators and Conveyors, Etc.

Complete Plants for washing HEMATITE ORES at Least Cost.

Webster, Camp & Lane Machine Co.

BAND FRICTION

HOISTS.

Endless and Tail Rope Haulage Engines for

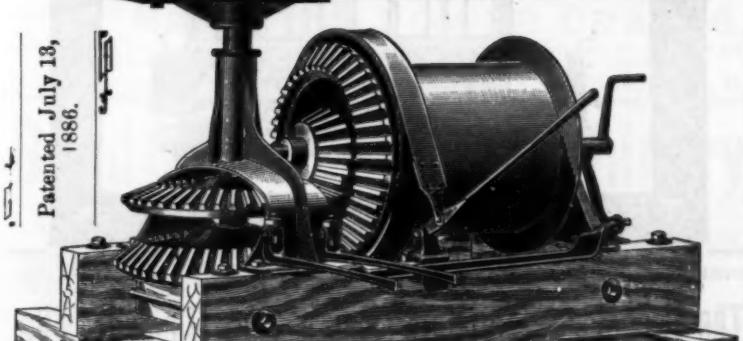
COAL MINES.

Automatic and Slide Valve Steam Engines, Boilers, Pumping Plants, Cages, Ore Cars, Sheaves, etc.

AKRON, O.

THE CONTRACTORS' PLANT MANFG. CO.

129 ERIE STREET, BUFFALO N. Y. U. S. A.



AN IMPROVED HORSE POWER HOISTING MACHINE, with a combination of fast and slow speed. With fast speed a horse will lift 1,000 to 1,500 lbs. on a single line at a speed of 60 feet per minute, and with a single block 3,000 lbs. 40 feet per minute. With the slow speed a weight of 1/2 tons with a single line, and with a single block 3 tons; with two single blocks 5 tons; with double and single blocks 7 tons. The speed single line 30 feet per minute, with single block 15 feet per minute.

In this combination of gears the user has the advantage of two machines embraced in one, with a saving of 25 per cent. in cost and 60 per cent. in weight.

SIMPLE, DOES NOT GET OUT OF ORDER.

WRITE FOR ILLUSTRATED CATALOGUE OF

HORSE POWER HOISTING MACHINERY

For Bridge Builders, Contractors, Quarrymen, Mineral and Coal Miners, Masons and Builders.

DERRICKS AND CONTRACTORS' SUPPLIES. Mention this paper when you write.

IRA DIMOCK, Pres. Established 1867. J. L. OTIS, Treas.

Northampton Emery Wheel Co. MANUFACTURERS OF

Premium Solid Emery AND CORUNDUM WHEELS, AND ALL KINDS OF Emery Wheel Machinery. LEEDS, MASS.

WESTERN BRANCH: 20 SOUTH CANAL STREET, CHICAGO, ILL.

NORTON EMERY WHEEL CO.

Complete Illustrated Catalogue mailed free upon application

MANUFACTURERS OF

EMERY and Corundum Wheels,

Emery Wheel Machinery AND NUMEROUS SPECIALTIES.

NORTON EMERY WHEEL CO. WORCESTER, MASS.

THOS. K. CAREY & BROS.

Southern Agents.

26 Light Street, Baltimore.

BRICK MACHINERY.

THE NEW

QUAKER

is the best and most reasonable in price of any first-class Brick Machine made. Send for illustrated catalogue, giving full particulars and prices before purchasing.

Both Horse and Steam Machines.

PUG MILLS, MOLD SANDING MACHINES, MOLDS, BARROWS, AND ALL BRICKMAKERS' SUPPLIES.

Fletcher & Thomas, Indianapolis, Ind

THE BREWIS BRICK PRESS

Patented August 18, 1885, January 8, 1886.

FOR MAKING PERFECT BRICK

FROM DRY OR SEMI-DRY CLAYS.

Machines Warranted and sold to responsible parties on thirty days' trial. Weight of two-mould machine, 14,000 pounds. Capacity of two-mould machine, 8,000 to 16,000 perfect brick in ten hours. Send for circulars and prices to sole licensed builders.

CHAS. KAESTNER & CO.

Machinists, Founders, Engines, Shafting, Pulleys, &c.

303-311 S. CANAL STREET, CHICAGO, ILL.

WE TEST ALL CLAYS SENT PREPAID FREE.

Chambers' Brick Machinery

15,000, 25,000, 50,000 per day Capacity.

GUARANTEED AND FURNISHED ON THIRTY DAYS' TRIAL.

CHAMBERS BROS. CO., Philadelphia, Pa.



Send for Illustrated Catalogue.

Mention Manufacturers' Record.



Waltham Emery Wheel Co., Manufacturers, WALTHAM, MASS.

By our various processes we can guarantee satisfaction for the greatest variety of work.

EMERY WHEEL MACHINERY,

EMERY, CORUNDUM, Etc.

These wheels can be bought of our agents or ordered direct.

To Secure SOUTHERN TRADE

ADVERTISE IN THE

MANUFACTURERS' RECORD.

Established 1831.

BALDWIN LOCOMOTIVE WORKS.

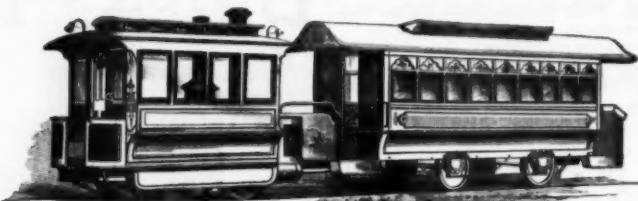
Annual Capacity 800.

LOCOMOTIVE ENGINES,

Adapted to every variety of service, and built accurately to standard gauges and templates.

Steam Tramway Motors.

MINE LOCOMOTIVES.



H. K. PORTER & CO.

PITTSBURGH, PA.

LIGHT LOCOMOTIVES, all gauges of track, for Passenger and Freight Service, Logging Railroads, Mines, Blast Furnaces, Steel Mills, Coke Ovens, Contractor's Works, Plantations, &c.

NOISELESS STEAM MOTORS, all sizes and patterns adapted to Steep Grades and Sharp Curves, and Noiseless and Smokeless. Cheaper, more Reliable and Efficient, and Less Objectionable than Electric or Cable Systems.



THESE CUTS CHANGED EACH INSERTION.

ALL WORK STEEL FITTED and built to duplicate system. EXTRA PARTS kept in Stock. MEMORANDUM.—LOCOMOTIVES AND MOTORS of several sizes, wide and narrow gauge kept on hand for immediate shipment, or under construction for quick shipment. Illustrated Catalogue, Photographs, Prices, &c., on application, mentioning this paper.

Adams & Price, Locomotive & Machine Works,

MANUFACTURERS OF

LOCOMOTIVES FOR POLE ROADS AND TRAMWAYS.

All kinds of Logging and Mining Cars. Side Dump Cars a specialty. Pig Iron Cars, improved. Contractors for all classes of Light and Heavy Castings. Send for circulars. City address,

108 Vauxhall Street,

NASHVILLE, TENN.

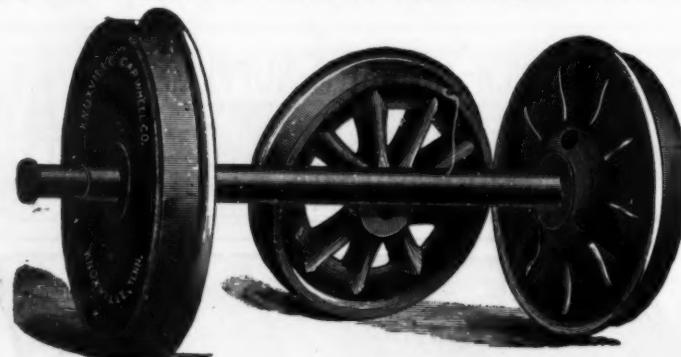
Knoxville Car Wheel Co.

—KNOXVILLE, TENN.—

Manufacturers of All Kinds of

C MILLED WHEELS

For Railroads, Street Railroad. Ore and Coal Mines, and Lumbermen.



Steam Hammers,
Steam Hoists,
Foundry Cupolas,
Derricks, Crabs,
Horse Powers,
Shieves, Drill Heads,
Gearing, Pulleys,
Bolts of all sizes.
LOCOMOTIVES and Engines
Repaired and Indicated.

CORRESPONDENCE SOLICITED.

Steel and Iron Boilers,
Guild's Automatic
Boiler Cleaner,
Car and Locomotive Castings,
Soft Iron Castings of all kinds.
Heavy Castings a specialty.
Wheels mounted on Axles if
desired, with Oil Boxes
and Bolts.

MENTION THIS PAPER.

EMPLOYERS WILL PREVENT LOSS
BY ACCIDENTS TO
WORKMEN BY INSURING WITH

Employers' Liability Assurance Corporation.

Agent, G. W. S. HALL, Baltimore.

Firms with pay rolls of
over Sixty Million Dollars now protected.

LOCOMOTIVES FOR LOGGING

Railroads and Sugar states.

Burnham, Parry, Williams & Co.

PROPRIETORS,

500 N. Broad Street, Philadelphia, Pa.

In writing, please refer to Manufacturers' Record.

Richmond Locomotive & Machine Works, Richmond, Va.

ESTABLISHED IN 1865.

Builders of

LOCOMOTIVES

for every variety of service
to Standard Design or to meet
views of purchasers.

MOTORS

for Street Railways, Tram Roads
and Mines.

STATIONARY ENGINES

for heavy duty.

BOILERS

Standard or Special.
Send for Catalogues, Specifications
and Estimates.

JOHN STEPHENSON COMPANY NEW YORK

TRAMWAY CARS OF EVERY DESCRIPTION
LIGHT, ELEGANT, DURABLEBYRD WARWICK,
President.J. T. ANDERSON, Sec'y and Treas.
(Late with Tredegar Co.)R. W. JEFFERY, Supt.
(Late with Tredegar Co.)

The Richmond Standard Spike Co., Richmond, Va.

Manufacturers of Dock, Ship and Railroad Spikes.

STEEL RAILS

PENNSYLVANIA

Standard Sections
Light Sections
Street Rails
Fish Plates,
Frogs, Switches

STEPHEN W. BALDWIN
SALES AGENT

STEEL COMPANY

50 to 80 lbs. per yard
16 " 45 " " "
30 " 88 " " "
Bolts & Nuts,
and Crossings.

NO. 2 WALL STREET
NEW YORK N.Y.

16 lbs. Full Size.

ALL GENUINE
INGOTS & MANUFACTURES
STEEL & IRON
REG. TRADE MARKS.

"Phosphor-Bronze"

PHOSPHOR-BRONZE
INGOTS, CASTINGS & MANUFACTURES.
THE PHOSPHOR-BRONZE SMELTING CO. LIMITED
512 ARCH ST. PHILADELPHIA PA. U.S.A.
ORIGINAL MANUFACTURERS OF PHOSPHOR-BRONZE IN THE UNITED STATES AND OWNERS OF THE U.S. PATENTS.

STEEL
CASTINGS

From 1-4 to 15,000 lbs. Weight.

True to pattern, sound, solid, free from blow-holes, and of unequalled strength. Stronger and more durable than iron forgings in any position or for any service whatever. 40,000 CRANK SHAFTS and 30,000 GEAR WHEELS of this steel now running prove this.

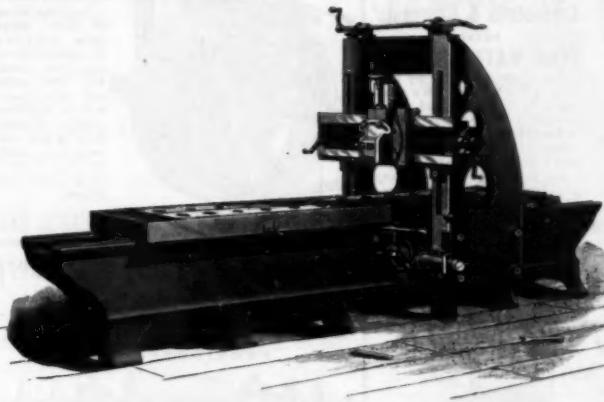
CRANK SHAFTS and GEARING specialties. STEEL CASTINGS of every description. Send for circulars and prices to

CHESTER STEEL CASTINGS CO.

Offices, 407 Library St., Philadelphia.

Works, Chester, Pa.

NILES TOOL WORKS, HAMILTON, O.



Planers a Specialty.

NEW PATTERNS 1899.

Strictly First-Class.

Moderate Prices.

Perfection of Workmanship.

Positive Feed.

Quick Return.

Extra Heavy.

Large Bearings.

The Smoothest Running Planers.

NEW YORK—98 LIBERTY STREET.

PHILADELPHIA—705 ARCH STREET.

PITTSBURGH—PENN BUILDING.

CHICAGO—PHENIX BUILDING.



Keep Your Belts from Slipping

AND SAVE YOUR POWER BY USING

FRICITION COVERING FOR PULLEYS.

Satisfaction Guaranteed. Easily Applied. No Rivets. Effective. Agents Wanted.

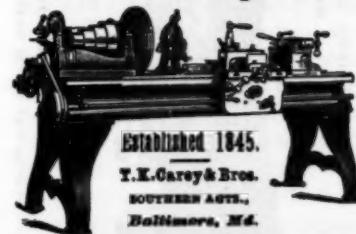
NATIONAL PULLEY COVERING CO., BALTIMORE, MD.

Phoenix Iron Works,

W. H. THOMPSON, Proprietor.

Manufacturer of **HAND AND POWER CRANES**,
For Forges, Pipe Foundries, Rolling Mills, Wire Works, Foundries, Machine Shops, Locks and
Mines. Locomotive and Pivot Cranes and Overhead Traveling Cranes.Send for Catalogue. **Wasson and Superior Sts., Cleveland, O.**

Build and Repair Your Machinery



BY USING

Engine Lathes, Planers,
Chucking Lathes, Hand Lathes,AND
MACHINE TOOLS GENERALLY
MANUFACTURED BY
LATHE & MORSE TOOL CO.

Worcester, Mass., U. S. A.

THE BILLINGS

HARTFORD
MANUFACTURERS OFDIES MADE IN 5
THREADS FROMTO 2 INCHES V
U. S. STANDARD AND

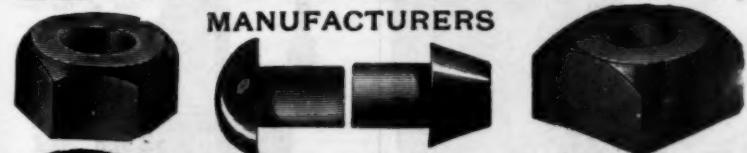
DROP FORGED

& SPENCER CO.

CONN.
SCREW PLATES ANDSIZES CUTTING
1/8 OF AN INCHTHREAD ALSO
WHITWORTH THREAD

OF BAR STEEL

HOOPES & TOWNSEND, MANUFACTURERS

MACHINE AND CAR BOLTS,
KEYSTONE BOILER RIVETS,MADE IN SOLID DIES,
COLD PUNCHED, CHAMFERED, TRIMMED &
DRILLED SQUARE & HEXAGON NUTS.Bridge Rivets,
Split and
Single Keys.WASHERS,
TANK AND COOPERS'
RIVETS.

PHILADELPHIA, PA.



Plantation Engines

With Self-Contained
RETURN FLUE BOILERS,
FOR DRIVING

COTTON GINN AND MILLS.

Illustrated Pamphlet Free. Address
JAMES LEFFEL & CO.,
SPRINGFIELD, OHIO,
or 110 Liberty St., New York.

If you wish to keep posted on the progress of the South, read the MANUFACTURERS' RECORD. Price \$4.00 a year.

Barnes' Patent Foot Power Machinery.

Complete outfit for Animal Workshop Business. Lathes for Wood or Metal. Circular Saws, Scroll Saws, Formers, Mortisers, Treenails, Etc., Etc.



Our Patent Velocipede Foot-Power is without question the best yet applied to Lathes. Read a few expressions from those using them:

"I do not see how your lathes can be produced at so low cost." "The Velocipede foot-power is simply wonderful." "Can turn a whole day's work in a few hours." "I have a 12 ft. lathe and a 10 ft. planer, and to the velocipede foot-power, I owe all the time I save." "I have a 10 ft. lathe and a 12 ft. planer, and to the velocipede foot-power, I owe all the time I save." "I set at the lathe for 11 hours, cutting off and threading 114 steam pipes. Those who saw it declared it equal to 18 hour job in machine shop." "Using the velocipede foot-power, the operator can hold a steady hand, and the work is done with a minimum of fatigue." "The velocipede foot-power gives me the velocity of power." "The 6 ft. Lathe is equal to any costing twice the money." "What astonishes me is, how you can make machines to pay you no small sum of money." "The No. 6 ft. lathe is the most perfect tool I ever saw for the money." "I can do double the amount of work on the velocipede, that I can on any other power." "The velocipede foot-power is no tax on the body, the body is at rest, steady, the hands and arms are free for the job." "The velocipede—It is the best foot-power of any for lathes."

If desired, these machines will be sold ON TRIAL. The purchaser can have ample time to test them in his own shop and on the work he wishes them to do. Descriptive Catalogue and Price-List

W. P. & JOHN BARNES CO., No. 281 Ruby St., Rockford, Ill.

THOMAS K. CAREY & BROS., 22 S. Charles Street, Baltimore Agents

MAGNOLIA METAL.

ENDORSED BY

United States & German Governments.

Best Anti-Friction Metal
FOR
Steamship, Car and All Machinery Bearings.

MAGNOLIA ANTI-FRiction METAL CO.

Owners and Sole Manufacturers,

LONDON OFFICE: 75 Queen Victoria Street.

74 Cortlandt St., New York.

The Erie Key-Seating Machine



CAN BE USED

EITHER AS A

Portable or Stationary.

RANGE UNLIMITED.

No Facing of Hubs
Required.

ADDRESS

F. C. BURTON & CO., Erie, Pa.

MANUFACTURERS' RECORD.

Lowell Steam Boiler Works,
LOWELL, MASS.

Estimates given on New Boilers of every Description. All kinds of **Second-Hand Engines and Boilers.** For sale also, 1 Hunneman and 1 Button.

STEAM FIRE ENGINE

In First-Class Condition. To be sold cheap. For Prices, Terms, &c., address as above.

EAGLE IRON WORKS
DETROIT, MICH.
MANUFACTURERS OF

VERTICAL AND
HORIZONTAL
ENGINES.
SHAFTING, PULLEYS
AND HANGERS.

BOILERS
OF ANY DESCRIPTION.
CASTINGS & FITTINGS
OF ALL KINDS.
OIL-TANKS
SMOKE STACKS
SEND FOR CIRCULARS.

Satisfaction guaranteed. Correspondence solicited.
C. J. O'HARA, General Manager.

THE
Bray & Nickerson
AUTOMATIC
GAGE GLASS



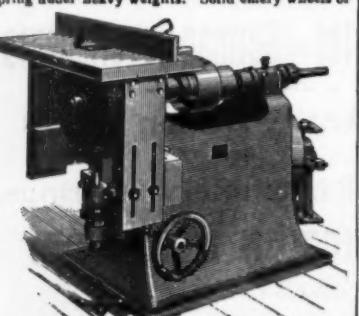
Positive in Action
Simple in Construction.
Easily Attached and Adjusted.
Thoroughly Tested.
Guaranteed in Every Particular.

These glasses are fitted with Patent Automatic Valves, set within the boiler, which will INVARIA-



Agents
Wanted.
Bray & Nickerson Automatic Gage Glass Co.
34 Oliver Street, Boston.

Emery Wheel Surfacing Machine.
Base of machine has sufficient flare to give solid floor foundation. Table is so supported that it cannot spring under heavy weights. Solid emery wheels or



wood covered wheels can be used, and table is easily adjusted to wearing away of wheel. Machine is well proportioned and thoroughly built. Write for circulars.
Springfield Glue & Emery Wheel Co., Springfield, Mass.

ROLLER and
Detachable Chain Belting,

Detachable in Every Link,
FOR IMPROVED

ELEVATORS,
CONVEYERS,
AND

Driving Belts
FOR HANDLING

Coal, Ores, Grain,
CLAY, BRICK, &c.

ADDRESS

The Jeffrey Mfg. Co.
121 W. STATE ST.
Columbus, O.

Also manufacturers of the Legg Coal Mining Machines and Rotary Power Coal Drill. Send for Illustrated Catalogue.



SHEPARD'S New 360 SCREW-CUTTING FOOT LATHE
Foot and Power Lathes, Drill
Presses, Scroll Saw Attachments,
Chucks, Mandrels, Twist Drills,
Dogs, Calipers, etc.
Lathe on trial. Lathe on
payment.
Send for catalogue of Outfits
for Amateurs or Artisans.
Address, H. L. SHEPARD, Agent,
134 E. 2d Street, Cincinnati, Ohio.

Wood-Working
Machinery

For Furniture, Chair and Cabinet Factories, Planing Mills, Box Shops, Agricultural, Car, Sash, Door, and Blind Works and General Wood Workers.

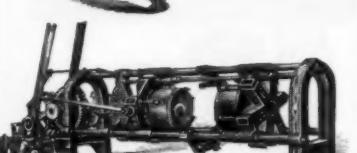
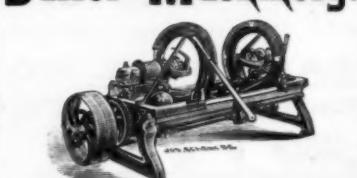
ADDRESS

Rollstone Machine Co.

44 Water St., Fitchburg, Mass.

E. & B. HOLMES,
BUFFALO, NEW YORK,
MANUFACTURERS OF

Barrel Machinery.



Chambers Patent Barrel Heater.
Capacity, 300 tight or 500 slack barrels per day.
The best Heater made.

E. & B. HOLMES, Sole Agents.

The Sigourney Tool Co.

HARTFORD, CONN.



One, Two and Three
Spindle
DRILLS.

Sensitive,
STRONG
—AND—
Workmanship
UNEQUALLED.



Special Machinery, Tools, Models, &c.
Built by Day or Contract.
THOS. L. GAREY & CO., AGENTS, BALTIMORE.

WANTED—Steam users to know that WEBSTER'S "VACUUM" FEED WATER HEATER and PUMPER utilises exhaust steam, for winter and summer use, to the very best possible advantage, as explained in pamphlet, for which address WARREN WEBSTER & CO., 49 N. Third St. etc., Philadelphia, Pa.

Kroeschells & Bourgeois'
PATENT

FEED WATER HEATER.

For Heating Water by EXHAUST STEAM. We guarantee to heat the feed water to within a degree or two of the temperature of the exhaust steam. The great trouble with other heaters, caused by the early and frequent corroding of Flues is obviated in our Heater—the material of tubes being the **BEST OF BRASS.** No back pressure to engine. All sizes from 30 to 1,000 h. p. and larger. Saves boiler repairs. Saves fuel.

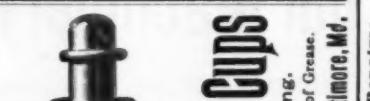
Office and Works: 4 to 12 Michigan St., Chicago, Ill.

The Wainwright Corrugated Copper Tube
Heater, Over 60,000 in use.

Highest results obtained with exhaust steam alone without back pressure. The most carefully constructed Heater in the market.

Coil, Vertical and Horizontal Straight Tube Heaters. Heaters for compound Condensing Engines. Expansion Joints, Filters and Condensers. Prices very low. Heaters constructed of Cast Iron and Steel Shells, Copper Tubes, Brass Connections. No Wrought Iron to rust out. Send for new illustrated catalogue.

THE
Wainwright Mfg. Co.
OF MASS.
Factory, Medford,
34 Oliver St., Boston.
F. B. ASPENWALL, Mgr., 112 Liberty St., New York.
FAIRBANKS & CO., Mgrs., 101 Arch St., Phila., Pa.
H. S. WALKER, Mgr., 8 & 10 S. Canal St., Chicago, Ill.



POWELL'S ★ GREASE CUPS
ALL IRON for Line Shafting.

With Patent Cut-Off for Regulating Flow of Grease.

For Sale by THOS. C. BASSHOR & CO., BALTIMORE, MD.

Costs Less for Repairs; Occupies Less Space; Requires Less Power.

Send for Circular.



POWELL'S PATENT

MANUFACTURED BY

The WM. POWELL CO., Cincinnati, O.

Also a full line of Steam Brass Work.

TAPER-SLEEVE PULLEY WORKS

211 W. 12TH ST.
ERIE, PA.

Manufacturers of Taper-Sleeve Wood Belt Pulleys, Adjustable Dead Pulleys, Friction Clutch Pulleys, Friction Clutch

Couplings, Wood Pulleys in Halves, Taper-Sleeve and Compression Couplings, Shafting, Post and Drop Hangers. Correspondence solicited.

Friction-Clutch Pulley.

QUEEN LUBRICANT—Wanted a good house

in every city and town to handle our Lubricant.

Our goods have been well introduced.

EUREKA MFG. CO.

Foot E. 56th St., New York.

ALSO MANUFACTURE

Friction-Clutch Pulley.

If you are not already a subscriber to

the MANUFACTURERS' RECORD, send us \$4

and you will receive it regularly for one year

or six months for \$2.00.

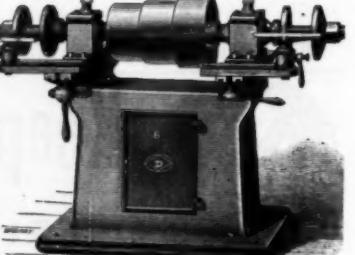
The WELLINGTON BELT HOLDER.

LATELY
IMPROVED.
Just the thing
to shift large
belts driving
Dynamos, Blowers,
Gins, Saws,
etc. Belt stops
and slackens
when machine
stops. Thousands
in use, cost
very low. Sent
on trial. Permit
us to quote you
prices.

W. R. SANTLEY & CO. Wellington, Ohio

Grinding & Polishing Machinery

In all sizes and every description. Send for catalogue. Correspondence solicited.

DIAMOND MACHINE CO.
PROVIDENCE, R. I.

Southern Agts.—T. K. CAREY & BROS., Baltimore.

The Belden Machine Co.
NEW HAVEN, CONN.

And in every particular beats the world.
DROP FORGINGS TO ORDER.
Send for Circular.

Rome Foundry & Machine Works,
ROME, G.A.

Manufacturers of the well known

DAVIS DOUBLE TURBINE

Water Wheel

Beyond all question
one of the best
wheels on the market,
and is fully
guaranteed.



Send for Illustrated
Catalogue and Price List.

Portable & Stationary Engines
AND BOILERS,
Grist & Flouring Mill Machinery.

THE MARKETS.

OFFICE MANUFACTURERS' RECORD, BALTIMORE, August 21, 1889.

All our reports from the South are uniformly favorable. Crop prospects indicate the heaviest yield of corn and cotton ever made in this section; railroad building is more active than in any other part of the country; manufacturers are running full time, with orders well ahead as a general thing, and the heavy profits that are being made in all industrial lines are being reinvested in new enterprises. The outlook in the South can scarcely be described as less than brilliant.

The past week has not presented any new or strange features in iron or steel. There has been an even, steady demand for all products in all markets. Everywhere trade and manufacturing prospects are spoken of in the strongest terms. Manufacturers realize pretty nearly their asking prices on early deliveries. Competition is felt less than for months. P. G. iron makers are selling their full output for remunerative prices. Throughout the iron trade there are symptoms of an upward tendency. There is trouble in the coke regions, and no one can tell the outcome. In Eastern Pennsylvania the coal managers have tried twice to make an advance, but market conditions are against them just at present. Here and there wages are advanced. The immense production of the past six months in crude iron gave the country only a slight increase in stocks. The heavy demand of the past month has started production on the increase, and besides, has hardened prices a little. Southern furnace interests show up well. Enormous deliveries continue to be made at many Western points. Prices as a rule are maintained at outside figures, and a further advance is within reach, it is believed. As to this it is hard to say. The country possibly may call for a much heavier supply of iron during the coming 12 months than is at present thought probable. Railroad building requirements are likely to spring up at any time. The government will continue to be a large buyer of material, or rather the contractors of its warships. The repairs on railway tracks are calling for enormous stocks of track supplies, and most mills are crowded with orders. Makers of machinery are also very busy. Car builders have been making extensive purchases. The Pennsylvania Company has just ordered an additional one thousand cars and other trunk lines will soon be in the market. The Huntingdon interests are now placing extensive machinery contracts in Philadelphia to equip their large ship-yard near Newport News. The lake ship and boat yards are also quite well supplied with business for the next four months. New pipe lines are also projected that will keep steel and wrought iron pipe mills crowded for some time to come.

All our advices from iron-making centers are favorable. There is no dullness; prices are firm; orders are pressing. No multiplication of words will make the situation better understood. Prices all over the West continue firm. Chicago's business is increasing, especially in heavy hardware and farming supplies. At St. Louis there is a general activity in all lines of mill and furnace products. A healthy condition of things exists all through the Ohio Valley, and manufacturers feel that it is safe to expand capacity. Tools and implements are distributed without the least friction as to prices or payments. Enterprise is feeling its way conservatively.

Pig-iron production has once more begun to climb and will probably continue in an upward direction to the close of the year. The bar-iron makers are now filled up with business and there is no reason for apprehending any diminution in activity. The demand for steel billets and slabs is unusual. Bessemer pig has also moved up a peg.

Nails sell well everywhere. Both cut and wire meet with an excellent demand.

Ship builders speak of an excellent outlook. Authorities in the iron trade believe there will be a general expansion of demand next year, especially if the country should return to active railroad building.

HARDWARE.

Orders are beginning to come in more freely as the fall season approaches. The large jobbers are busy. Reports from the interior are encouraging and the volume of trade will be good. Prices remain very firm generally, although some few goods are still very weak, such as wire nails, strap and T hinges, etc. The manufacturers of the latter are demoralized and are selling in some cases, it is said, at less than cost. Screws are selling more freely, and reports of low prices from the jobbers are becoming less frequent. Bar iron is somewhat stiffer and hopes are entertained that higher prices will prevail.

A 30-MILE IRRIGATING CANAL—EL PASO, TEX., Aug. 12, 1889.—The El Paso Irrigation Co. proposes to dig a canal about thirty miles long, to irrigate fifty or sixty thousand acres of the Rio Grande valley immediately below El Paso.

ERNEST E. RUSSELL.

BIG INDUCEMENTS TO SECURE ANOTHER FURNACE FOR NEW BIRMINGHAM—RUSK, TEXAS, August 12, 1889.—I have made a proposition in writing to the Phoenix Furnace & Land Co., donating nine acres of land and 117 town lots, out of my first addition to New Birmingham, in consideration of the construction and operation of a 50-ton iron blast furnace on the said nine acres. This land lies immediately between the town of Rusk and New Birmingham, and is counted, for water and railroad facilities and accessibility to ore, unequaled. The P. F. & L. Co. levied a subsidy on this place, Rusk, and New Birmingham—Rusk, \$7,000, which has been raised; New Birmingham voluntarily donated \$25,000 of stock of the New Birmingham Cherokee Land & Iron Co., and 25 years' ore privilege; the Kansas & Texas Addition to New Birmingham gave thirty lots of their property; the Forest Addition gave twenty-five lots of their property. The estimated value of the stock, mining and land, donated at present prices is valued at \$70,000. The P. F. & L. Co. has accepted the proposition, and will begin work within thirty days.

E. C. DICKINSON.

CONTRACTORS' WORK AT LAREDO—LAREDO, TEXAS, August 15, 1889.—The city is about to build a wrought iron bridge, consisting of three 115 foot spans across the Chacon creek in the limits of Laredo. Bids will be received up to Sept. 17, and information can be obtained from Hon. J. M. Rodriguez, county judge, Laredo, Texas. Bids are solicited on the erection of four two-story brick buildings, with iron and plate-glass fronts. Information can be obtained from James Murphy, architect, Laredo, Texas. The Mexican National Railroad Co. are sinking artesian well in New Laredo on the opposite side of the river. It is stated that the Mexican National Railroad will lay a third rail from Laredo to Monterey, a distance of 170 miles. This will enable the broad gauge cars of the Monterey, Tampico & Gulf Road to come direct to Laredo. The municipality of New Laredo is, it is stated, about to erect handsome buildings for the use of the city council. As a great deal of the material will be brought from the United States, it may be to the interests of some of the American contractors to communicate with the mayor of New Laredo.

WM. OLIVER.

ON the afternoon of August 3d the Taper-Sleeve Pulley Works, of Erie, Pa., received an order for a new wooden driving wheel, to take the place of a large broken iron one. Work had to be commenced at the lumber pile, but by putting a large force of men at the job, and by working night and day, the company was able to complete the work in less than one week after the order was given, and have the new wheel in position and running. The wheel measures 168 inches in diameter (14 feet), 42 inch face, drives a 40-inch belt, and is required to transmit 500 horse-power. The substitution of the wooden wheel for the iron one eliminates the element of danger which constantly attends all large revolving bodies of metal, owing to possible flaws in the casting and to their great weight, and consequent tendency to fly apart. The main receiving pulley at the same place, 84 inches in diameter and taking the 40-inch belt direct from the engine driver, was built by the Taper-Sleeve Pulley Works Company, and has been doing constant and satisfactory work during the past five years.

Information Wanted.

BENNETTSVILLE, S. C., August 17, 1889.
Editor Manufacturers' Record:

Kindly furnish us at once with the names and addresses of manufacturers of both jute and cotton bags for fertilizers, and of manufacturers of best press cloths for cotton oil mills, both camel's hair cloths and others. We want to communicate also with persons who can sell us chemicals, and give us best formulas for fertilizers. Good brokers in acid phosphates and other ingredients may be able to aid us.

MARLBORO COTTON OIL CO.

DIXON'S

GRAPHITE PIPE JOINT GREASE
For Steam or Gas Pipes, Bolts, Screws, etc.
Makes a Perfect Joint that can be opened with ease
in three years or thirty years.
JOSEPH DIXON CRUCIBLE CO.
JERSEY CITY, N. J.



The "Original Gandy"

Sewed Cotton Duck Belting,

Especially adapted for Main Drivers, Saw Mills, Cotton Gins, Cotton Presses, and for all places where belts are subjected to moisture or atmospheric changes, the "GANDY" stands paramount.

For further information, prices, etc., write

The Gandy Belting Co.
BALTIMORE, MD.

SOUTHERN AGENTS: Smith & Courtney, Richmond, Va.; Atlanta Rubber Co., Atlanta, Ga.; Baker, Sloo & Co., New Orleans, La.

THE BEST & CHEAPEST
BELTING
IN
THE WORLD
STITCHED CANVAS BELTING
THE CHESAPEAKE BELTING CO.
BALTIMORE, MD.

PAGE BELTING COMPANY,



We Manufacture
ple and special grades
Also the "HERCULES" Lacing

The Hercules is
Lacing; combines
Raw Hide and of
Send for Catalogue
Grades of Belting to use

CONCORD, N. H., U. S. A.

BRANCHES—Boston, New York, Chicago, St. Louis and San Francisco.

SHULZ BELTING CO.
MANUFACTURERS OF
IT BELTS THE EARTH AND MAKES THE MOON SPIN LIKE A TOP.
OUR BELTING IS TANNED ON THE SURFACES ONLY.
INTERIOR IS RAWHIDE.
The only Perfect Belts made
No slipping or lost motion.
SEND FOR OUR VALUABLE BOOK.
FREE.
ST. LOUIS, MO.
—AGENTS IN ALL CITIES—

S. OBERMAYER FOUNDRY SUPPLY MFG. CO.

Foundry Facings.

Importers and Refiners of

GRAPHITE

Or Black Lead

AND

Lubricating Plumbago.

NO CHARGE FOR TRIAL SAMPLES.



Foundry Supplies.

SHIPERS OF ALL KINDS OF

Molding Sands

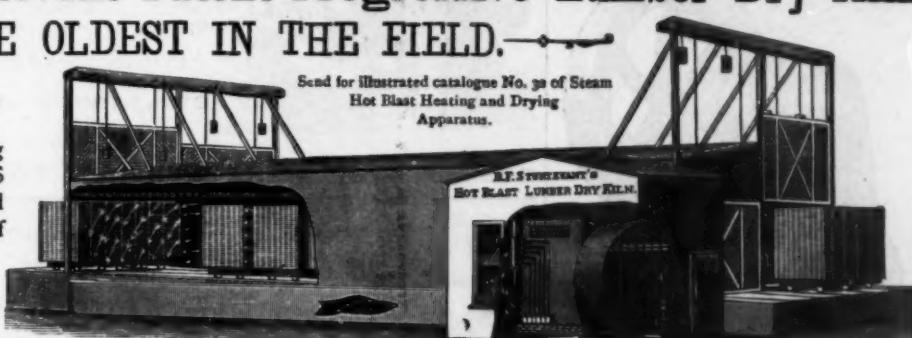
Monk's Molders' Tools.

CINCINNATI, OHIO, U.S.A.

Write for Catalogue and Price List.

The Sturtevant Patent Progressive Lumber Dry Kiln

—THE OLDEST IN THE FIELD.—



Send for illustrated catalogue No. 39 of Steam
Hot Blast Heating and Drying
Apparatus.

Complete working
drawings of KILNS
of all sizes furnished
to customers free of
charge.

B. F. STURTEVANT, 34 Oliver Street, cor. Franklin, BOSTON, MASS.

BRANCHES—91 LIBERTY STREET, N. Y., 31 N. CANAL STREET, CHICAGO.

MILNER & KETTIG,



BIRMINGHAM, ALA.

WRITE FOR CATALOGUES AND PRICES.

Prices guaranteed as low as any house in this line in the United States.

BUNDY RADIATORS

Consist of LOOPS, a BASE and a
Top in the simplest form pos-
sible in any Radiator.

— 13,000,000 —

SQUARE FEET NOW IN USE,
which are heating 10,000 of the largest and
finest buildings in the country, which
should prove beyond a doubt that the
BUNDY RADIATOR is the best made

MANUFACTURED BY
A. A. GRIFFING IRON CO.

662 Communipaw Avenue, Jersey City, N. J.

Send for new Catalogue.

MANUFACTURED BY
A. A. GRIFFING IRON CO.

662 Communipaw Avenue, Jersey City, N. J.

Send for new Catalogue.

HAINES, JONES & CADBURY CO.

MANUFACTURERS OF

PLUMBERS' MATERIAL,

1136 Ridge Avenue. Philadelphia, Pa.

LOWE & TUCKER, Chattanooga, Tenn.

— DEALERS IN —

Pig Iron, Iron Roofing,

RAILROAD AND FURNACE SUPPLIES.

J. H. PRATT.

Analytical Chemist,
Laboratory 1826 Third Ave., Birmingham, Ala.
Analyses of Ores, Slags and Coals carefully made.
Reports on properties, etc.

PORTLAND CEMENT.

German and English Brands of
Best Quality.

Send for tests and all particulars to
ERSKINE W. FISHER,
WELLS BUILDING, No. 28 Broadway, NEW YORK

BEACH'S NEW
Scroll Sawing
MACHINE.

\$2,000 is used, made in
four styles; prices to split
everybody; even village; no
jar; air pump, and every
known improvement. You
can stop, change the saw and
start in four seconds. Both
tilting and stationary table.
Mention this paper and send
for catalogue and prices.
You can't afford to buy any other.
Address, H. L. BEACH
Smith Street, Mortons,
Erie, Pa.

The Jeffrey Mfg. Co.

191 West State St., Columbus, O.
MANUFACTURERS OF
ELEVATORS, CONVEYORS,
DRIVING BELTS, for Handling



Barrels, Boxes, Bales, Grain, Coal, Oats, &c.
Illustrated Catalogues sent on application.
Correspondence solicited.



Bates' Hand Elevators.

Patented April 16, 1877. Reissued July 26, 1887.

OVER 6,000 IN USE.

Adapted for Warehouses, Stores, Factories,
Hotels, Public Institutions, and every place
where merchandise, &c., is transferred from one
story to another.

JAMES BATES, Patentee,

No. 1 3 & 5 President Street, BALTIMORE.

Steam
Engines,
Shafting,
Hangers,
Pulleys, etc.

CANNING MACHINERY,

The Warfield Manufacturing Co.
336, 338, 340, 342 NORTH ST. - - BALTIMORE, MD.

Warfield's
Green Corn
Cutter.

E. W. BLISS CO.

Plymouth, Pearl, John and Adams Streets,

OFFICE: 17 ADAMS STREET.

BROOKLYN, N. Y.

Presses,
* DIES, *
AND
SPECIAL
Machinery
FOR
Sheet Metal
• Workers.



Cam and Toggle Drawing Presses, Power Presses, Foot Presses, Automatic Drop Presses for Forging and Stamping, Double Seaming Machines for round, square and oval work; Circular Shears, hand and power; Squaring Shears, foot and power; Canning Machinery, Dies of every description, Tools for working Sheet Metals, Petroleum Can Machinery, Special Machinery.

SEND FOR CIRCULARS

THE
Long & Allstatter Co.
HAMILTON, OHIO.

Double, Single, Angle-Bar, Gang, Horizontal, Twin, Boiler, Spacing, Gate, Multiple, BELT and STEAM-DRIVEN

Punches and Shears,
Over 300 Sizes.

ALSO
POWER CUSHIONED
HAMMER.

Small Double Machine. Send for New Catalogues. Small Single Machine.

NIAGARA STAMPING & TOOL CO.
MANUFACTURERS OF

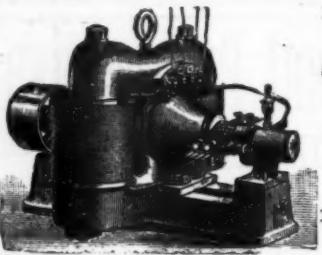


TINNERS' TOOLS AND MACHINES.
Office and Works, COR. RANDALL AND SUPERIOR STREETS, BUFFALO, N. Y.
Write for our Catalogue and Price-List. Please mention this paper.

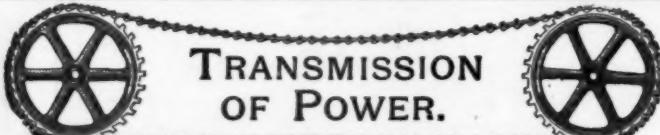
THE MANUFACTURERS' RECORD
IS THE FOREMOST EXPONENT OF THE INDUSTRIAL
INTERESTS OF THE SOUTH.

Sprague Electric Railway & Motor Co.

16 and 18 Broad Street, NEW YORK.



COMMUTATOR WEAR REDUCED TO A MINIMUM.



Machinery for Handling any Material in Bulk or in Packages.

The Link-Belt Engineering Company,

NEW YORK 49 Dey Street. Nicetown, PHILADELPHIA, PA.

Successors to BURR & DODGE, PHILADELPHIA,
AND
EASTERN BRANCH LINK-BELT MACHINERY CO.

EWART DETACHABLE LINK-BELTING,
DODGE CABLE CHAIN
ELEVATORS, CONVEYORS, LINK DRIVING BELTS.

Amos H. Hall,
CEDAR
Vat and Tank Factory
N. Second St., above Cambria.
PHILADELPHIA, PENNA.
TANKS for Brewers, Dyers, Paper Mills, Factories, Cotton and Woolen Mills.

Chattanooga Paint Company, CHATTANOOGA, TENN.

Manufacturers of the

• BEST OXIDE OF IRON PAINT MADE IN THE UNITED STATES. •

Over 18,000 tons made since 1880. 8,000 tons made in 1888. Over 500 certificates regarding its qualities. Either dry or mixed ready for use.

SEND FOR PRICES DELIVERED AT POINT OF DESTINATION

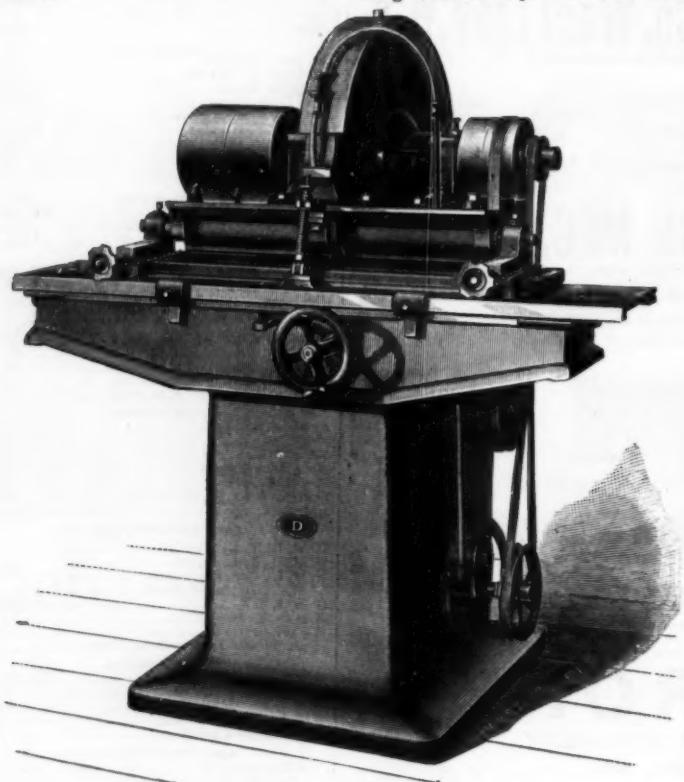
WIER & WILSON

DIRECT REPRESENTATIVES:

HUBBARD & CO.	Axes, Shovels, Hoes and Saws.
AMERICAN SCREW COMPANY,	Screws, Bolts, Wire Nails, &c.
A. FIELD & SONS,	Tacks, and Nails.
WHEELING HINGE COMPANY,	Wrought Goods, Butts, &c.
OLIVER BROTHERS & PHILLIPS,	Heavy Hardware.
L. D. FROST & SONS,	Philadelphia Carriage Bolts.
J. P. TOLMAN & CO.	Braided Sash Cord.
JOHN SOMMERS' SON,	Faucets
NICHOLSON FILE CO.	Files
HARTFORD HAMMER CO.	Hammers and Sledges.
THE HENRY O. HART MFG. CO.	Screen Frames, Lull & Porter, Blinds, Spring Hinges, &c.
SHEBLE & KLEMM,	Forks.
HOLROYD & CO.	Stocks and Dies.
BAKER CHAIN & WAGON IRON MFG. CO.	Wagon Hardware, Links, Rings, &c.
CLARKE BROS. & CO.	Bolts, Nuts, etc.
BRANFORD LOCK WORKS.	WHITE MOUNTAIN FREEZER CO.
DRUID FELT CO.	Fabric Roofing and Paint.
OFFICE No. 14 West German Street	BALTIMORE, MD.

Knife-Grinding Machine.

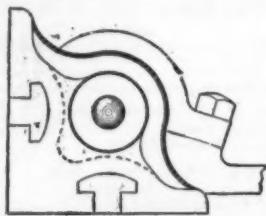
The machine illustrated is a late production in the line of labor-saving grinding machinery. It is designed to grind knives or any other work up to 30 inches long. It has automatic power feed, both longitudinal and lateral, so arranged by a specially patented device. The angle iron, on which the platen or table to which the knife or work to be ground is clamped, can be reversed so that the workman can grind to or from the edge as he wishes; also directly across the edge or square face if desired.



KNIFE GRINDING MACHINE.

The platen or table is exceptionally wide and furnished with extra width of ways to traverse upon. It is also provided with small hand wheels at each end, to bring the work to be ground to the wheel on a parallel line, then to retain its parallel lines.

There is an automatic device for feeding the emery wheel forward to the work as it is ground away; it can also be operated by hand movement when desired. The center of the angle of knife bar is enclosed by a split yoke, as shown in the small detail cut. By loosening the yoke screw the workman is able to swivel the



SECTIONAL VIEW.

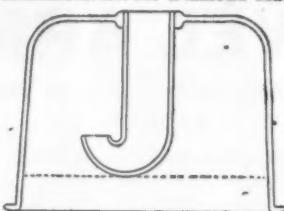
angle iron to any desired position or pitch to the wheel. This feature is one of the particularly strong points of this grinder, and cannot help commanding itself to the workman. Long engine lathe boxes are provided, which can be readily replaced when worn, an especially good feature with this machine, making it, it is claimed, very strong and durable, being made as thoroughly throughout as the best make of lathes and planers. Also, every provision known for excluding the emery dust from the bearings has been provided. The water hood is so arranged that all water is distributed directly on the wheel in front of the knife or work to be ground, and thus prevents drawing the temper. The

inside hood leads all water and spray directly back to the upper tank. This tank is provided with a patent siphon, as shown in small cut, patents for which were allowed May 7, 1889. This device avoids taking any of the emery and other sediment that comes from the wheel and work to the lower tank. The pump that takes the water from this tank to the wheel is being made on a new principle, entirely of brass, which will not become corroded or clogged up with rust from prolonged use.

The machine weighs complete, as shown for 30 inch knife grinding, 1,100 pounds, using wheels 22x1 $\frac{1}{2}$. It is also made in

five other sizes, taking work up to 100 inches.

Any other information can be had of the manufacturers, the Diamond Machine



SECTIONAL VIEW.

Co. No. 34 Beverly street, Providence, R. I. Western office and repository, Nos 35 and 37 South Canal street, Chicago, Ill.

WANT MACHINERY—DALTON, August 17, 1889.—The Alliance Cotton-seed Oil Mills at this place want a good second-hand or new boiler, 50 horse-power and 40 horse-power engine and bids on cotton-seed oil machinery, shafing, etc. Also metal or other fire proof roofing.

ALLIANCE COTTON-SEED OIL MILL.
W. M. HAIG, Secy.

DEVELOPING MANGANESE—WASHINGTON, D. C., August 17, 1889.—Gen. W. S. Rosecrans, president of the "Eureka Manganese Co." requests me to advise you that the above company was organized under the laws of Virginia on the 16th ult., with a capital of \$500,000, and has commenced work on its property near Markville, Page county, Virginia, Shenandoah Valley Railroad.

L. W. REID

If you are not already a subscriber to the MANUFACTURERS' RECORD send us \$4 and you will receive it regularly for one year, or six months for \$2.00.

For Sale or Exchange!

An Erie Eng'ne, 12 horse-power, and Tubular Boiler, 20 horse-power, in good order and ready for work. Will be sold cheap for cash or exchanged for stock in any established enterprise, or for lots or property in or near any growing town. Address

"COMPRESS,"

Care Manufacturers' Record.

FOR SALE.

DARLINGTON LAND IMPROVEMENT CO.

Lots within the incorporate limits of the town of Darlington, and fine farming lands adjacent, for sale. Railroad facilities good. Fine graded school in town. For further particulars apply to J. J. WARD, President and Treasurer of Darlington Land Improvement Co., Darlington, S. C.

FOR SALE.

12-ton ice plant (Pictet) all complete and in first-class order, can be had at one-third cost, and been in use only one year. For particulars inquire of

SO. FLORIDA FOUNDRY & MACHINE CO.,
ORLANDO, FLA.

FOR SALE.**SMALL MACHINE SHOP.**

Excellent opening.

Asbury & Crieder,
ROANOKE, VA.

FOR SALE.

A FINE

Marble and Talc Property.

Pink, Blue, Green and Black Marble on property; also fine corundum property in North Georgia. For particulars address

F. R. HEWITT,

Hewitt's, Swain Co., N. C.

\$80 will buy the best BAND SAW in the world. \$100 will buy our new PATENT 40-inch BAND SAW. \$185 will buy our new PATENT BAND RESAWING MACHINE. \$125 will buy the best AUTOMATIC RIP SAWING MACHINE, weatherboarding attachments included, and one 12-inch RIP SAW.

For further particulars address

STANDARD MFG. CO.
Moore's Hill, Ind.

Second Hand Machinery**FOR SALE.**

One Egan Co., Universal Wood-worker. One Egan Co., Wheel Boxer. One J. A. Fay & Co., No. 8 Lightning Flooer.

The above machines are guaranteed to be practically as good as new. Address,

CORDESMAN MACHINE CO.,

Butler St., CINCINNATI, O.

FOR SALE.
WOOD-WORKING MACHINERY, full line, with latest improvements.

Write for circulars and price-list
BENTEL, MARREDANT & CO., HAMILTON, OHIO.

FOR SALE.

Soap, Candle & Oil Works, Plant and Business.

Established 1848.

Warehouse, Houses and Outfit Complete, all in good repair.

A Fine Opportunity to secure a splendid paying and well established business in one of the best located cities in the South.

Address, for full particulars,

F. FABELS' SONS,

P. O. BOX 104,

LOUISVILLE, KY.

Oil Mill Machinery FOR SALE.
One Van Winkle Press and Pump.
Two Boomer Presses.

For particulars, write to
TARBORO OIL MILLS, Tarboro, N. C.

Let us know what you want.
We can save you some money.
NEW AND SECOND HAND MACHINERY,
OF EVERY DESCRIPTION.
ADDRESS
HUBBARD & CO., 86 Nassau St., New York.

To Manufacturers

Desiring a Staple Article on Royalty or Shop Right. For particulars of the "Landis Patent Steam and Hot Water Radiator" address EZRA F. LANDIS,
LANCASTER, PA.

"MEM.—To write

The Cincinnati Corrugating Co.

Superior Iron and Steel Roofing, Patent Edge Corrugations, Ornamental Ceilings, Substantial Arches, Improved Lath. Greatly enlarged facilities. Their own Rolling Mills. No chance for poor material. Everything Guaranteed the Best."

New Address,

THE CINCINNATI CORRUGATING CO.

PIQUA, OHIO.

**FIRE-PROOF
WATER-PROOF
WIND-PROOF GUTTA PERCHA ROOFING!**

The Great Roofing for the South. Send for Southern Manufacturers' References. For Steep or Flat Roof's Factories, Mills, Lumber Sheds, etc. Send for Catalogue, Testimonials, Samples, etc.

Empire Paint & Roofing Co., 1128 & 1130 Race St., Philadelphia, Pa.

**HOLTON IRON ROOFING
ROOFING, SIDING,
CEILING & C.
NEW LISBON, O.
AGENTS WANTED EVERYWHERE**

THE CANTON STEEL ROOFING CO., Canton, Ohio.

Folded Lock Seam, Genuine
Steel Roofing
FIRE-PROOF SHUTTERS.
10 Foot Seamless Eave Trough.
Send for catalogue, price-list
and samples.

CAMBRIDGE ROOFING COMPANY, Cambridge, Ohio.

**CROWLS PATENT STANDING
SEAM STEEL ROOFING**

MANUFACTURERS OF
Plain Rolled, Crimped
Edge, Corrugated and
Banded Roofing, Siding
and Ceiling.

Pure Steel a Specialty.
Send for Descriptive Catalogue.

**IRON & STEEL ROOFING,
"GLOBE STANDING SEAM",
"EXCELSIOR V CRIMPED",
"READY ROLLED CAPPED".
GLOBE IRON ROOFING &
CORRUGATING CO., CINCINNATI, OHIO**

The Kanneberg Roofing Co., Canton, O.

(The Originators of Strictly Genuine Steel Roofing.) MANUFACTURERS OF
THE KANNENBERG PATENT,
Latest Improved
Folded Lock Seam,
Strictly Genuine Steel Roofing.
Write for Catalogue, Price List
and Samples.

THE BERGER MANUFACTURING COMPANY, CANTON, O.

**BERGER'S
LOCK SEAM
STEEL
ROOFING**

SEND FOR
ILLUSTRATED
CATALOGUE
SAMPLES &
PRICES

DON'T make arrangements for ROOFING 'till you have seen ours.

It Excels all other Metal Roofs.

THOMPSON MANUFACTURING CO.
CLEVELAND, OHIO.

**CORRUGATED IRON
FOR ROOFING, SIDING, AND
CEILING.
FIVE SIZES OF CORRUGATIONS
CURVED OR STRAIGHT.**

We want to mail you our **ILLUSTRATED CATALOGUE** (84 pages), the finest ever issued by a roofing company.

"The MANUFACTURERS' RECORD is the Most Widely-Quoted Industrial Paper in the World."

DRUID FABRIC ROOFING

The Cheapest, Most Durable and Desirable

Roofing Material on the Market.

It is Water-Proof, Weather-Proof, Acid-Proof and practically Fire-Proof. Is endorsed by the New England Mutual Fire Insurance Co.

This roofing is specially recommended to owners of city and country property; it can be applied without the aid of skilled labor. Everyone can be his own roofer at very small cost. We put on this roofing when it is desired.

Druid Elastic Paint

Is the most Elastic, Durable and Economical Paint known for Tin Stoops, Smoke Stacks, Boilers, Boiler Fronts and all metal and wood surfaces. It is fire-proof, water-proof and acid-proof; it resists all rust as well as acid and smoke fumes; it will not peel, crack or blister. Especially adapted for making walls and northeast exposures water-proof. Bricks painted with two coats of this compound will resist a water pressure of 200 pounds to the square inch. The same applies to cement and mortar work. Send for prices and further information.

DRUID FELT CO.

7 S. GAY STREET, BALTIMORE, MD.

MANUFACTURERS.

B. F. STARE & CO.

BALTIMORE, MD.

Manufacturers of Mill Stones for all purposes. Portable Mills, Smut Machines, Roller Mills, etc. Shafting, Pulleys, Gearing and General Mill Machinery. Importers of Boiling Cloths and General Mill Furnishers. The Leading Mill-Furnishing House on the Atlantic Seaboard.

Baltimore Mill Furnishing Works.

RICHMOND CITY MILL WORKS

RICHMOND, INDIANA.

CORN & COB CRUSHERS,
FRENCH BUHR MILLS, H
PULLEYS, SHAFTING, BELTS, &c.
EVERY MILL GUARANTEED.
SEND FOR DESCRIPTION AND PRICES.

Complete Mill Outfits, Rolls or Buhrs.

FRENCH BURR MILLS,

FOUR SIZES—12, 16, 20 and 30 Inch.

These Mills are especially adapted to the Southern trade for making meal and fine feed, as they are so easily handled and taken care of and do not require an expert to dress the Burrs. It will pay anyone to write for catalogue and sample of meal and feed. Address,

WALDRON & SPROUT,
Muncy, Pa.

MANUFACTURERS OF
French Burr Mills, Corn Ear Crushers and Hay Tools.

LIFE INSURANCE AT ACTUAL COST.

Persons desirous of obtaining life insurance at actual cost should write for circulars to

SECURITY MUTUAL BENEFIT SOCIETY,

239 Broadway, New York.

This Society claims that for six years the cost to a member of middle age has been

Less than Twelve Dollars a Year

for each thousand dollars of insurance.



Issues Policies of Insurance after Careful Inspection of the Boilers, covering Loss or damage to property, and Loss of Life and Personal Injury

ARISING FROM STEAM BOILER EXPLOSIONS.

Full information concerning the plan of the Company's operations can be obtained at the COMPANY'S OFFICE, Hartford, Conn., or at any Agency.

J. M. ALLEN, President.

J. B. PIERCE, Secretary.

BOARD OF DIRECTORS:

J. M. ALLEN, President.
CHARLES W. CHENEY, Treas. Cheney Bros. Milk Mfg. Co.
D. NIEL PHILLIPS, of Beach & Co.
RICHARD W. H. JARVIS, Pres. Colt's Fire Arms Mfg. Co.
THOMAS O. ENDERS, Pres. of the United States Bank.
LEVERETT BRAINARD, of The Case, Lockwood & Brainard Co.
GEORGE W. R. THOMAS, late Vice-Pres. Colt's Patent Fire Arms Mfg. Co.
NEWTON CASE, of The Case, Lockwood & Brainard Co.
LAWFORD & MCKIM, Agt's for Maryland, 22 S. Holiday St., Baltimore, Md.

NELSON HOLLOWELL, of State Bank, Hartford.

HON. HENRY C. BORRMAN, Attorney-at-Law, Hartford.

HON. FRANCIS B. COOLEY, of the Nat. Exchange Bank, Hartford.

A. W. JILLSON, late Vice-Pres. Phoenix Fire Insurance Co., Hartford, Conn.

EDMUND A. STEPHAN, Tres. of the Fidelity Co., Hartford, Conn.

CLIFFORD B. SPENCER, Bridgeport, Conn.

GEORGE BURNHAM, Baldwin Locomotive Works, Phila.

HON. NATHANIEL SHIPMAN, Judge U. S. Circuit Court.

TRADE NOTES.

The new extension being built by the San Antonio & Aransas Pass Railroad are being equipped with pumps, boilers and tank valves manufactured by the Laidlaw & Dunn Co., of Cincinnati, Ohio.

As an illustration of Southern machinery invading the North, the Knoxville Tribune says that "the Knoxville Car-wheel Co. have just completed a large steam hammer for one of the leading manufacturing firms of Manchester, N. H."

GEO. H. HULL & CO., of Louisville, Ky., have been appointed exclusive agents for the sale of the Florence iron made by the North Alabama Furnace Co., at Florence, Ala. The ore is all brown hematite and the coke Pocahontas. The furnace expects to make foundry and forge irons of superior quality.

MESSRS. B. W. PAYNE & SONS, of Elmira, New York, have lately sold 100 horse-power compound engines for the Brush Electric Lighting Co., of Columbus, Ga., to give an indicated horse-power per hour on 2½ pounds of coal; also one for the Schuyler Co., Elmira, N. Y.; also a 100 horse-power Corliss engine for the Decatur, Ala., Electric Light Co., to give an indicated horse-power per hour on 3 pounds of coal.

In introducing new machinery, cotton and woolen manufacturers cannot be too careful in selecting the proper person to set up the machinery, as well as in selecting it. L. Godfrey & Co., of Providence, R. I., dealers in new and second-hand machinery of every description, claim special advantage in such work, as they are practical manufacturers, having been brought up in the business, and having had many years of experience. This experience has given them great skill in managing machinery and adapting plants to any kind of goods. Manufacturers will do well to consult these gentlemen when seeking changes in their plant.

WARREN, Wood & Co., of 115 Broadway, New York, send out a neat little pamphlet on the subject of pig iron. Iron has become one of the leading articles of traffic, and figures are given in this pamphlet to show what a good investment it is at present prices. In order to aid investments in iron the pamphlet mentions a method of buying warehouse certificates, under which the grade and weight of iron is guaranteed. The cost of storing the pigs is only two cents per month per ton, making iron cheaper than any other commodity similarly handled. Those concerned in any way about iron will be interested in this pamphlet and its accompanying statistics.

THE Anniston Hot Blast pays the following well-deserved tribute to Mr. Jas. L. Taylor, the general passenger agent of the Piedmont Air Line: "We note with personal gratification the emphatic success that has attended Mr. Taylor's administration of the affairs of the passenger department of that great corporation. Called to its head at a time of difficulty and embarrassment, he has succeeded in perfecting an organization and a system that have won the grateful commendation of the owners and managers of the property and the congratulations of competitors as well as friends. Few of the young railroad officials of the South have a higher promise of success than our friend Taylor, and we feel special interest in his future. The South has already furnished some of the ablest and broadest-minded railroad men in the country, and her quota is not exhausted."

THE American House, Boston, continues to be one of the most popular first-class hotels in New England, and one of the best patronized at all seasons of the year.

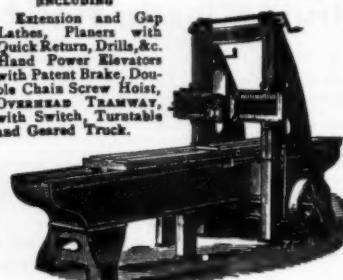
Established 1867.
E. HARRINGTON, SON & CO.
Works and Office,
115th St. & Penna. Ave., Phila., Pa., U.S.A.

Manufacturers of a full line of

Iron Working Machinery.

INCLUDING

Extension and Gap
Lathes, Planers with
Quick Return, Drills, &c.
Hand Power Elevators
with Patent Brake, Double
Chain Screw Hoist,
OVERHEAD TRAMWAY,
with Switch, Turntable
and Geared Truck.



Gear Cutting a Specialty. Send for estimates.

Represented by J. Q. MAYNARD, 12 Cortland St., N. Y.; C. E. KIMBALL, 93 Oliver St., Boston; W. BUCHNER, 100 Main St., Cincinnati.

QUEEN LUBRICANT.—Hundreds of works
are Cutting Threads, Tapping, Drilling, &c., at
a cost of 5 cents per gallon. Established 1876.
Sample at List Price. EUREKA MFG. CO.
Front E. 5th Street, New York

ATLANTIC TRANSPORT LINE,
BETWEEN BALTIMORE AND LONDON
Calling at Swansea and Philadelphia on the outward
passage.

S.S. Minnesota, 5,000 tons. S.S. Missouri, 4,000 tons.
S.S. Maryland, 4,000 tons. S.S. Michigan, (Bldg.)
S.S. Montana, 4,000 tons. S.S. Mississippi, (Bldg.)
S.S. Maine, 4,000 tons.

BALTIMORE STORAGE & LIGHTERAGE CO.
236 La Salle Street, { and { 10 Fenchurch Street,
Chicago, Ill., { and { London.
409 Second Street, Baltimore, Md.

THE GREAT
PORT DEPOSIT EXCURSIONS

Will Begin June 14.
THE NEW IRON STEAMER TOLCHESTER
EVERY FRIDAY AND SUNDAY
AT 8 O'CLOCK A. M.
ROUND TRIP 25 CENTS.

GOOD MEALS. GOOD MUSIC.
125 MILES OF THE MOST BEAUTIFUL
SCENERY AND NOVEL SIGHTS
That can be seen from the decks of a steamer
you get on these trips. They are worth twice
as much as we charge. The opportunity is
yours. Those Excursions will be managed by
THE TOLCHESTER CO.

Tolchester
Beach.

THE LEADING AND MOST POPULAR FAMILY
RESORT NOW OPEN.

GOOD HOTEL. MODERATE PRICES.
NEW DINING-ROOM. FAMOUS MEALS 50 CTS.
GRAND CONCERT EACH AFTERNOON.

THE BIG WHALE is a Great Attraction.

THE NEW IRON STEAMER TOLCHESTER,
The Lightning Express, will leave Pier 16
Light Street, daily at 8:30 A. M. and 3:30 P. M.,
Sundays; 9 A. M. and 2:30 P. M., returning to
the city at 8:30 P. M. Excursion Tickets at the
boat 50 cents; Children between 6 and 12 years
half fare. Special inducements and very low
rates to schools and societies. Apply early to
TOLCHESTER OFFICE.

STEAMER LOUISE BEGINS JUNE 10.

THE BAY LINE

FOR
Fortress Monroe, Morfolk & the South.

The Bay Line comprises the New and Elegant Steamers
"VIRGINIA," "CAROLINA" and "FLORIDA."

All the Comforts and Luxuries of First-Class Hotel are
afforded the traveler. Spacious and airy saloons and
Staterooms, furnished with an especial view to comfort.
Unsurpassed Cuisine, which is made a specialty
with this Line. Elegant service and courteous attention.
Steamers leave Baltimore daily (except Sundays) at 9 P. M.
A. M. and 2 P. M. Comfort is located in the SPLENDID
HYDE HOTEL, Pernfrightful Resort at all Seasons of
the Year. For Tickets and information apply at
Company's office.

157 W. BALTIMORE STREET, BALTIMORE.
Or on Board of Steamers.

D. J. HILL, Superintendent.
E. BROWN, General Ticket Agent.

THE BRADSTREET
Mercantile Agency

WAS ESTABLISHED IN 1849.

Is the oldest and financially the strongest organization
of its kind, working in one interest and under
one management, with more capital invested in the
business, and expends more money every year for
the collection and dissemination of its information
than any similar institution in the world. Its reports
are considered in the light of a guide by both investors
and those contemplating the granting of credit. In
addition to a large corps of skilled employees,
more than one hundred thousand correspondents
contribute the result of their investigation
and opinions. Subscriptions are annual, and may commence
at any time the subscriber elects. Details as
to prices and terms will be furnished upon application.

CHARLES F. CLARK, President.
Baltimore Office—American Building.

M. KERSHAW, Supt.

PEN-MAR,

The Gem of the Blue Ridge.

More Beautiful than ever.

Pen-Mar Popular Excursions.

An Enchanting Trip. Unsurpassed Scenery. New

Attractions. New Band. New Features.

Spacious Dancing Pavilion.

Recreation. Pleasure. Amusements.

Grand Concert Daily.

Prof. John Zeigler Leads the Band.

Prof. J. W. Bangert Directs the Dancing.

BEST 50¢. DINNER IN AMERICA.

Served in the Pen-Mar Dining Hall.

Pen-Mar Express will leave Hillen Station at 9:15
A. M., Union Station 9:30, Pennsylvania Avenue 9:35,
and Fulton Station at 9:27 A. M. Daily, except
Sunday.

Returning, leave Pen-Mar 6 P. M. Arrive in Baltimore
at 8:30 P. M. ROUND TRIP \$1. CHILDREN HALF PRICE.

J. M. HOOD, B. H. GRISWOLD,
General Manager. Gen. Passenger Agent.

THOMAS E. JENKINS, Excur'g Ag't W. M. R. R.

Sunday Schools, Societies, Lodges and other reputable
organizations desiring information regarding

arrangements, dates, &c., for special excursions to

Pen Mar, Gettysburg Battle-fields and other points on

the Western Maryland Railroad, will be personally

visited upon req est. Apply to or address

THOMAS E. JENKINS, Excur'g Ag't W. M. R. R.

Sunday Schools, Societies, Lodges and other reputable
organizations desiring information regarding

arrangements, dates, &c., for special excursions to

Pen Mar, Gettysburg Battle-fields and other points on

the Western Maryland Railroad, will be personally

visited upon req est. Apply to or address

THOMAS E. JENKINS, Excur'g Ag't W. M. R. R.

Sunday Schools, Societies, Lodges and other reputable
organizations desiring information regarding

arrangements, dates, &c., for special excursions to

Pen Mar, Gettysburg Battle-fields and other points on

the Western Maryland Railroad, will be personally

visited upon req est. Apply to or address

THOMAS E. JENKINS, Excur'g Ag't W. M. R. R.

Sunday Schools, Societies, Lodges and other reputable
organizations desiring information regarding

arrangements, dates, &c., for special excursions to

Pen Mar, Gettysburg Battle-fields and other points on

the Western Maryland Railroad, will be personally

visited upon req est. Apply to or address

THOMAS E. JENKINS, Excur'g Ag't W. M. R. R.

Sunday Schools, Societies, Lodges and other reputable
organizations desiring information regarding

arrangements, dates, &c., for special excursions to

Pen Mar, Gettysburg Battle-fields and other points on

the Western Maryland Railroad, will be personally

visited upon req est. Apply to or address

THOMAS E. JENKINS, Excur'g Ag't W. M. R. R.

Sunday Schools, Societies, Lodges and other reputable
organizations desiring information regarding

arrangements, dates, &c., for special excursions to

Pen Mar, Gettysburg Battle-fields and other points on

the Western Maryland Railroad, will be personally

visited upon req est. Apply to or address

THOMAS E. JENKINS, Excur'g Ag't W. M. R. R.

Sunday Schools, Societies, Lodges and other reputable
organizations desiring information regarding

arrangements, dates, &c., for special excursions to

Pen Mar, Gettysburg Battle-fields and other points on

the Western Maryland Railroad, will be personally

visited upon req est. Apply to or address

THOMAS E. JENKINS, Excur'g Ag't W. M. R. R.

Sunday Schools, Societies, Lodges and other reputable
organizations desiring information regarding

arrangements, dates, &c., for special excursions to

Pen Mar, Gettysburg Battle-fields and other points on

the Western Maryland Railroad, will be personally

visited upon req est. Apply to or address

THOMAS E. JENKINS, Excur'g Ag't W. M. R. R.

Sunday Schools, Societies, Lodges and other reputable
organizations desiring information regarding

arrangements, dates, &c., for special excursions to

Pen Mar, Gettysburg Battle-fields and other points on

the Western Maryland Railroad, will be personally

visited upon req est. Apply to or address

THOMAS E. JENKINS, Excur'g Ag't W. M. R. R.

Sunday Schools, Societies, Lodges and other reputable
organizations desiring information regarding

arrangements, dates, &c., for special excursions to

Pen Mar, Gettysburg Battle-fields and other points on

the Western Maryland Railroad, will be personally

visited upon req est. Apply to or address

THOMAS E. JENKINS, Excur'g Ag't W. M. R. R.

Sunday Schools, Societies, Lodges and other reputable
organizations desiring information regarding

arrangements, dates, &c., for special excursions to

Pen Mar, Gettysburg Battle-fields and other points on

the Western Maryland Railroad, will be personally

visited upon req est. Apply to or address

THOMAS E. JENKINS, Excur'g Ag't W. M. R. R.

Sunday Schools, Societies, Lodges and other reputable
organizations desiring information regarding

arrangements, dates, &c., for special excursions to

Pen Mar, Gettysburg Battle-fields and other points on

the Western Maryland Railroad, will be personally

visited upon req est. Apply to or address

THOMAS E. JENKINS, Excur'g Ag't W. M. R. R.

Sunday Schools, Societies, Lodges and other reputable
organizations desiring information regarding

arrangements, dates, &c., for special excursions to

Pen Mar, Gettysburg Battle-fields and other points on

the Western Maryland Railroad, will be personally

visited upon req est. Apply to or address

THOMAS E. JENKINS, Excur'g Ag't W. M. R. R.

Sunday Schools, Societies, Lodges and other reputable
organizations desiring information regarding

arrangements, dates, &c., for special excursions to

Pen Mar, Gettysburg Battle-fields and other points on

the Western Maryland Railroad, will be personally

visited upon req est. Apply to or address

THOMAS E. JENKINS, Excur'g Ag't W. M. R. R.

Sunday Schools, Societies, Lodges and other reputable
organizations desiring information regarding

arrangements, dates, &c., for special excursions to

Pen Mar, Gettysburg Battle-fields and other points on

the Western Maryland Railroad, will be personally

visited upon req est. Apply to or address

THOMAS E. JENKINS, Excur'g Ag't W. M. R. R.

Sunday Schools, Societies, Lodges and other reputable
organizations desiring information regarding

arrangements, dates, &c., for special excursions to

Pen Mar, Gettysburg Battle-fields and other points on

the Western Maryland Railroad, will be personally

visited upon req est. Apply to or address

THOMAS E. JENKINS, Excur'g Ag't W. M. R. R.

Sunday Schools, Societies, Lodges and other reputable
organizations desiring information regarding

arrangements, dates, &c., for special excursions to

Pen Mar, Gettysburg Battle-fields and other points on

the Western Maryland Railroad, will be personally

visited upon req est. Apply to or address

THOMAS E. JENKINS, Excur'g Ag't W. M. R. R.

Sunday Schools, Societies, Lodges and other reputable
organizations desiring information regarding

arrangements, dates, &c., for special excursions to

Pen Mar, Gettysburg Battle-fields and other points on

the Western Maryland Railroad, will be personally

visited upon req est. Apply to or address

THOMAS E. JENKINS, Excur'g Ag't W. M. R. R.

Sunday Schools, Societies, Lodges and other reputable
organizations desiring information regarding

arrangements, dates, &c., for special excursions to

Pen Mar, Gettysburg Battle-fields and other points on

the Western Maryland Railroad, will be personally

visited upon req est. Apply to or address

THOMAS E. JENKINS, Excur'g Ag't W. M. R. R.

Sunday Schools, Societies, Lodges and other reputable
organizations desiring information regarding

arrangements, dates, &c., for special excursions to

Pen Mar, Gettysburg Battle-fields and other points on

the Western Maryland Railroad, will be personally

visited upon req est. Apply to or address

THE STILLMAN

CLEVELAND, OHIO.

Unsurpassed in its Elegance, Fine Cuisine and Table Service.

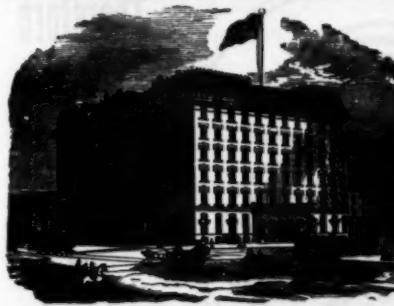
Only Fire-Proof Hotel in Cleveland.

Every room heated by Steam and lighted by Electric Light.

RATES \$3.50 TO \$5.00 PER DAY.

Elegant suites can be secured by addressing

J. WARREN COLEMAN, Jr., Manager



Colonnade Hotel,

Chestnut St., Cor. 18th,

One block from new Penna. Railroad Depot.

PHILADELPHIA.

H. J. & G. R. CRUMP.

A FAVORITE RESORT
FOR ALL
SOUTHERN TRAVEL.

PIEDMONT AIR LINE.

RICHMOND & DANVILLE R.R. CO.

THE SHORT AND DIRECT LINE FROM

Washington, D. C., and Richmond, Va.,

To Atlanta, Augusta, Columbia, Asheville, Raleigh, Greensboro, Salisbury, Goldsboro, Birmingham, Montgomery, Vicksburg, Shreveport, Mobile, New Orleans, Texas, Mexico and California, and the South and Southwest.

DOUBLE DAILY, SOLID TRAINS between Washington and Atlanta. Pullman's Palace Buffet and Drawing-Room Sleeping Cars without change to Atlanta, New Orleans, Augusta, etc.

For maps, time-tables, rates of passage, freight, etc., apply to nearest Station Agent of the Piedmont Air Line, or to any Railroad Agent of principal lines North or South.

PEYTON RANDOLPH, General Manager.

JAS. L. TAYLOR, Gen. Pass. Agent.

SOUTHERN PEOPLE, TOURISTS, TRAVELERS & BUSINESS MEN

SHOULD STOP AT

THE Beautiful and Elegant
* "NIAGARA" HOTEL,

BUFFALO, N. Y.

Front and Porter Ave.

The Most Elegant Hotel in America. Situated commanding a beautiful view of Lake Erie and Niagara River. Spacious conservatory filled with rare exotics. Special rates made for parties remaining one week or longer. Hotel particularly well located for business men and the families. LATE DINNERS. MUSIC.

RATES—\$4.00 a day and upwards (American Plan.)

Telegraph for accommodations in advance at our expense.

HENRY F. ROESSER, Manager.



IS THE SHORT LINE

EAST and WEST, NORTH and SOUTH.

Daily Sleeping Car Service between

WASHINGTON and MEMPHIS, WASHINGTON and NEW ORLEANS,
and Double Daily Service between

CINCINNATI and JACKSONVILLE.

THE SHORTEST ROUTE,

THE CHEAPEST ROUTE,

THE QUICKEST ROUTE.

B. W. WRENN, Gen'l Passenger and Ticket Agent, Knoxville, Tenn.
C. A. BENSCOTT, A. G. P. A., Knoxville.
C. A. DESAUSURE, A. G. P. A., Memphis.

S. H. HARDWICK, A. G. P. A., Atlanta.
RAY KNIGHT, A. G. P. A., Selma.

Western Maryland R. R.

Short Freight Line to Westminster, Frederick, Taneytown and Hagerstown, Md.; Waynesboro, Chambersburg, Shippensburg, Hanover, Gettysburg and Carlisle, Pa.; also points on the Frederick Division P. R. R., Gettysburg & Harrisburg R. R., Harrisburg & Potomac R. R., Shenandoah Valley R. R., Norfolk & Western R. R. and connections, also route of

Great Southern Despatch.

All rail Fast Freight Line for Southern and Southwestern points, via. Bristol, Tenn. Freight received in any quantity at Hillen Station, and in car loads at Fulton, Canton and Jackson's wharf. Shippers desiring information will be called on. Send postal card with address to

R. H. CRISWOLD,
G. F. A., Hillen Station, Baltimore, Md.

EMPLOYERS WILL PREVENT LOSS
BY ACCIDENTS TO
WORKMEN BY INSURING WITH

Employers' Liability Assurance Corporation.



PREMIER FLOUR

OF AMERICA.

Patapsco Flouring Mills.

ESTABLISHED 1774.

OUR PATENT ROLLER FLOURS

Are manufactured from the Choicest Wheat Obtainable, for which Baltimore as a market stands pre-eminent. Their superiority for Uniformity, Strength and Unapproachable Flavor has long been acknowledged. Our Patapsco Superlative Patent Stands Unrivaled. Of a rich creamy color, it makes a bread that will suit the most fastidious.

ASK YOUR GROCER FOR

PATAPSICO SUPERLATIVE PATENT, PATAPSICO FAMILY PATENT, ORANGE GROVE EXTRA.

C. A. GAMBRILL MFG. CO.

Office, 214 Commerce Street, Baltimore, Md.

Lake Chautauqua Route

FROM THE
South and West to the East



Pullman Line to all points on Lake Chautauqua and to New York. Ask for tickets via

ERIE RAILWAY.

Descriptive pamphlets mailed free on application.

E. B. THOMAS, Second Vice-President.

L. F. PARKER, General Passenger Agent.

W. C. RINEAROON, Ass't Gen. Pass. Agt.

CLEVELAND, OHIO.

THE JOHN RYAN CO.

South and German Sts., BALTIMORE.

LIBERAL TERMS.

TYPE FOUNDING and
ELECTROTYPING.

Printing Presses New and
Second-Hand.

Printers' Materials.

PROMPT, ACCURATE and RELIABLE.

HAULT & WIBORG,

— MANUFACTURERS OF —

PRINTING

— INKS, —

VARNISHES, &c.

CINCINNATI, OHIO.

BRANCH OFFICE, 152 AND 154 MONROE STREET, CHICAGO.

Agent, G. W. S. HALL, Baltimore.

Firms with pay rolls of
over Sixty Million Dollars now protected.

TRADE NOTES.

THE National Pulley Covering Co., of Baltimore, have recently received from Evert & Co., shoe manufacturers of that city, their fifth order for pulley covering. Their initial order placed over two years ago is still doing as good work as when first used, and their continued orders since prove the confidence they have in it.

THE firm of Colwell & Canning was lately dissolved and succeeded by Messrs. Reginald Canning & Co., who will carry on business in the same line, viz.: the furnishing of locomotives, cars, wheels, axles, etc., making a specialty of second-hand equipment of every description for both standard and narrow-gauge roads. Their address is 115 Broadway, New York.

THE officers of the Inman Line received a despatch yesterday announcing that the City of Paris had lowered the record again on her eastward passage, completed last night. The City of Paris passed Sandy Hook at 4:05 P. M. on Wednesday last. She was sighted off Fastnet Light at 6 P. M. yesterday, Greenwich time. Allowing 2½ hours, the usual time, for her run to Roche's Point, her apparent time for the trip would be 6 days 4 hours and 40 minutes. Allowing 4 hours 56 minutes for the difference in time between New York and Greenwich, her actual time would be 5 days 23 hours and 44 minutes. The record was 6 days 29 minutes. The City of Paris's record westward (the best) is 5 days 23 hours and 7 minutes.—N. Y. Sun.

Commenting on the above the Magnolia Anti-Friction Metal Co., of New York, write us that this extraordinary speed can be attributed to the use of Magnolia metal in her journals, as this increases the motive power. This metal possesses very remarkable qualities and deserves a test by all steam users.

AN excellent specimen of a catalogue is that published by the Wainwright Manufacturing Co., of Massachusetts, to advertise their corrugated tube feed-water heaters, condensers, filters and work as general foundrymen and machinists. The popularity of the special product of the concern, the feed-water heaters, is well demonstrated by the fact that 60,000 horse-power of them are now in use. The leading characteristics in favor of the condensers of this company are an increase of heat in the feed-water, the decrease of power required to drive the air pump, the purity of the feed-water, resulting from the use of the water of condensation delivered from the condenser to the hot well—an invaluable feature where muddy or bad water are used—the use of thinner tubes, as they are strengthened by corrugation, and the surface area of the tubes thus increased, and the distribution of the metal so as to give the greatest strength with the least amount of weight. When it is considered that a condenser is an additional source of power, or to put it otherwise, a reducer of fuel consumption to the extent of from 20 to 30 per cent., its value will be appreciated by all economical people, and the good qualities of the products of this company appreciated. The Wainwright Co. also make filters, expansion joints, corrugated copper gaskets, grease extractors, gauges and cocks and other articles used about a boiler and steam engine. All these products are well described in the catalogue, which can be had by applying to the company at 34 Oliver street, Boston.

THE 22d annual publication of Poor's Manual of the Railroads of the United States is about to be issued. The introduction as a sort of prospectus is already in circulation. This manual is the leading publication upon the railway systems of the country and is authority on all subjects relating to railways. No one thing can be a

more accurate index of the growth and prosperity of a country, or of any part of a country, than the building of railways and the increase in the volume of business of the already established lines. In this manual all these statistics and all the information connected with them that would interest the close student are given. Carefully-arranged maps indicate the increased mileage and distinguish between the roads just built and those of several years' standing. A new feature recently introduced by the manual is the giving a history of leading lines. The present issue contains several such, the one of most interest to the South being that of the Louisville & Nashville. The whole story of the inception, growth and development of this line is given. It will do the heart of every true friend to the South good to read the story of the steady but wonderfull growth of the Southern States as told in the statistics and reading matter in this volume. What adds to the interest and value of these statistics is a comparison with the statistics of preceding years. Any one seeking information of any sort in regard to railway matters will be sure to find it in this volume. Sent postpaid by H. V. & H. W. Poor, 70 Wall street, New York, on receipt of the price, \$6.

THE beauty of the catalogue issued by the Mather system of incandescent lighting is only typical of the light itself. Rarely has a catalogue come to us that was got up in better taste than this. This form of lighting is the most perfect yet conceived. There is no danger to life, and the risk from fire is reduced to a minimum; there is no overheating and burning the virtue out of the air; there is no flame; matches are not required, and there is no flicker of light or disagreeable smell. So much for the system in general. For the Mather system in particular, it has the advantage of having one of the most practical and skilled consulting electricians in the country in management. The system is therefore reduced to a fine point of science. The Mather dynamo is simplicity itself, hence it is hardly possible for the parts to get out of adjustment. It has perfect automatic regulation, so that the power consumed is in exact proportion to the number of lights in actual use. The lowest point of economy is thus reached, both in the construction and the operation of the dynamo. Another essential characteristic is the entire freedom from sparks without the use of any spark arrester or other such device. Much friction is thus saved, and the life of the parts is greatly prolonged. The choice of a lamp is as important a matter as the choice of a dynamo. The lamp used with the Mather system is the Perkins, the chief characteristics of which are its long life, its high efficiency at a minimum cost, and the freedom of the bulb from discoloration by use. This is an important feature, as oftentimes ten per cent. of the light is consumed by discolored bulbs. The company provides skilled experts to make surveys where lights are to be introduced, thus the best results are always secured. The high appreciation of the Mather system is well shown by the large number of leading factories, hotels, opera-houses, public institutions and other places in which it is used, a long list of which are given in the catalogue. The catalogue is a fine specimen of letter press work, and is sent out from the factory at Manchester, Conn.

HARRISON SAFETY BOILERS.

Merits Proven by Over Twenty Years' Practical Work.

All sizes from 4 H. P. to 240 H. P.

Base of Transportation, Erection and Repair. Full Particulars, Drawings and Estimates mailed upon application.

HARRISON SAFETY BOILER WORKS, Germantown Junction, Philadelphia, Pa. Southern Office, 9 to 13 N. Pryor street, Atlanta, Ga.

ESTABLISHED 1832 ON PRESENT PREMISES.

The Best
—IS—
ALWAYS
—THE—
Cheapest.



Therefore
BUY OUR
COLOPHINE
—OR—
Perfect Oils

The above are our specialties in MACHINERY OILS, and are the best oils for the price manufactured. We can give you anything in the OIL LINE, any grade, at the very lowest prices. Correspondence solicited.

WM. C. ROBINSON & SON,
MANUFACTURERS AND DEALERS IN OILS,
217 South Street Baltimore, Md.

WATER AND GAS BONDS NEGOTIATED.

The COMMONWEALTH CONSTRUCTION CO., Contracting Engineers,
P. O. Box 184, PHILADELPHIA, PA.

Water Works, Gas Works, Electric Light Plants and Sewerage Constructed in all parts of the United States. We offer special inducements to Cities, Boroughs and Towns. Special attention given to the remodeling of Water Works, &c.

PLANS, ESTIMATES AND SPECIFICATIONS FURNISHED.

T. S. MIDDLETON, Consulting Engineer.

LEWIS J. MILLER,
Philadelphia, Pa.

MILLER & BIERCE,

WILL W. BIERCE,
Memphis, Tenn.

Engineers and Contractors



Sole Agents for
Lewis Miller's Improved Steam and Hydraulic Cotton Compress,
(Lewis Miller's and John F. Taylor's Patents.)

The most powerful, economical, and the fastest working Compress built. The only Compress in the world that will load cars and vessels to their full tonnage.

Also Agents and Manufacturers of Steam Engines, Water Engines, Pumps, Boilers, and Heavy Machinery in General.

OFFICES:

PHILADELPHIA, PA., 16 S. Broad Street.

MEMPHIS, TENN., 327 2d Street.

SIMPKIN & HILLYER,
Consulting and Constructing Mechanical Engineers.

WM. SIMPKIN, A. S. M. E., late Superintendent Tanner & Delaney Engine Co., and the Richmond Locomotive & Machine Works.

E. C. HILLYER, M. E., Proprietor of the Warwick Iron Works, and formerly Chief Designer Patapsco Bridge Works, Baltimore.

Plans, Specifications and Estimates for any class of Engineering Work, Cotton and other Mills. A specialty of Economical Steam plants, rope and belt driving. Gas, Water and Creosote Works, Electric Light Plants. Working Drawings Prepared. Locomotives, narrow gauge and standard, for all purposes. Street Motors, Cars, &c.

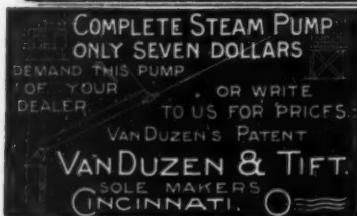
Valuations made. Arbitrations attended. Engines indicated. Castings supplied. Repair work promptly attended to. Write for circular. Correspondence solicited.

Works—Warwick Iron Works, Newport News, Va., P. O. Box 2.

All repairs should be sent to works.

General Office—1105 Main St., Richmond, Va.

P. O. Box 315.

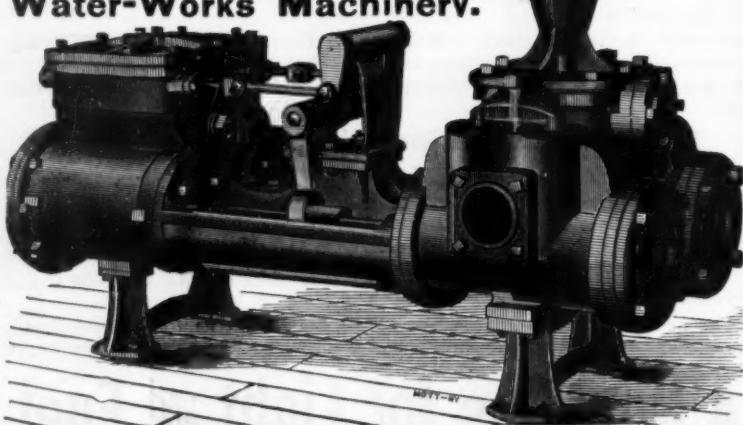


WELL DRILLING
Machinery & Tools
ST. LOUIS VISE & ARTERIAN WELL TOOL CO.,
Catalogue Free: ST. LOUIS, MO.



THE IMPROVED SMITH & VAILE
Single, Duplex and Compound

STEAM PUMPS
FOR EVERY DUTY.
Water-Works Machinery.



13½ in. Steam Cylinder, 20-in. Water Cylinder and 24 in. stroke Improved Low-Service Pump.

The Smith & Vaile Co.

—DAYTON, O. and NEW YORK.—

112 LIBERTY STREET.

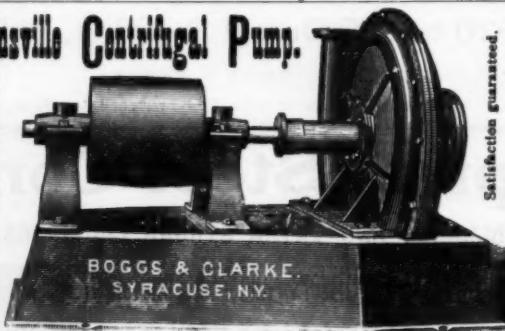
Plans and Estimates for Hydraulic and Oil Mill Machinery on Application.

EASTERN & SOUTHERN AGENTS:
THOS K. CAREY & BROS., 21 S. Charles Street, Baltimore, Md.
G. W. STORER, 149 N. 3d Street, Philadelphia, Pa.
D. A. TOMPKINS CO. — Charlotte, N. C. and Atlanta, Ga.

THE ORIGINAL IMPROVED Baldwinsville Centrifugal Pump.

Seated on trial for thirty days to responsible parties. Our patterns are new and of the best design. Our shop has been fitted up with new tools and appliances of the best manufacture. Being practical machinists for the past twenty-five years, we feel confident we can give the best satisfaction, and therefore we guarantee our work as to prices and quality in every respect. More in use than any other make. Correspondence solicited.

Address
BOGGS & CLARKE
125 and 135 S. Clinton St.,
SYRACUSE, N. Y.



JENKINS BROS.' PUMP VALVES.

We make a specialty of Hard Rubber Pump Valves for Hot Water, Oils and Acids; also for very high pressure. Accept no pump valves as JENKINS' or JENKINS BROS.' unless stamped like cut.



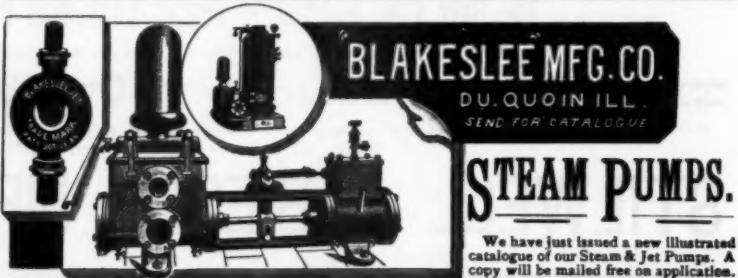
Acme Pumps
Valley Pump Co.
EASTHAMPTON,
MASS.

ENGLISH, MORSE & CO.
KANSAS CITY, MO.

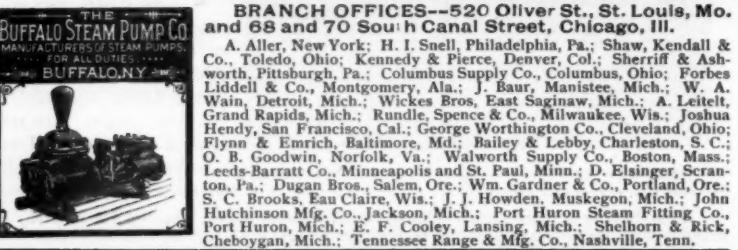
Subscribe to the MANUFACTURERS' RECORD.
Price \$1.00 a year or six months for \$2.00.

DEAN BROS. STEAM PUMP WORKS.
BOILER FEEDER BREWERS AIR PUMP FIRE PUMP DUPLEX PUMP
PUMPING MACHINERY FOR ALL PURPOSES.
INDIANAPOLIS, IND.

SEND FOR CATALOGUE AND PRICES.



We have just issued a new illustrated catalogue of our Steam & Jet Pumps. A copy will be mailed free on application.



BRANCH OFFICES—520 Oliver St., St. Louis, Mo. and 68 and 70 South Canal Street, Chicago, Ill.

A. Aller, New York; H. I. Snell, Philadelphia, Pa.; Shaw, Kendall & Co., Toledo, Ohio; Kennedy & Pierce, Denver, Col.; Sheriff & Ashworth, Pittsburgh, Pa.; Columbus Supply Co., Columbus, Ohio; Forbes Liddell & Co., Montgomery, Ala.; J. Baur, Manistee, Mich.; W. A. Wain, Detroit, Mich.; Wickes Bros., East Saginaw, Mich.; A. Leitelt, Grand Rapids, Mich.; Rundle, Spence & Co., Milwaukee, Wis.; Joshua Hendy, San Francisco, Cal.; George Worthington Co., Cleveland, Ohio; Flynn & Emrich, Baltimore, Md.; Bailey & Lebby, Charleston, S. C.; O. B. Goodwin, Norfolk, Va.; Walworth Supply Co., Boston, Mass.; Leeds-Barratt Co., Minneapolis and St. Paul, Minn.; D. Elsinger, Scranton, Pa.; Dugan Bros., Salem, Ore.; Wm. Gardner & Co., Portland, Ore.; S. C. Brooks, Eau Claire, Wis.; J. J. Howden, Muskegon, Mich.; John Hutchinson Mfg. Co., Jackson, Mich.; Port Huron Steam Fitting Co., Port Huron, Mich.; E. F. Cooley, Lansing, Mich.; Shelhorn & Rick, Cheboygan, Mich.; Tennessee Range & Mfg. Co., Nashville, Tenn.



95 and 97 Liberty St., N. Y., 535 Arch St., Philadelphia.



PUMPS

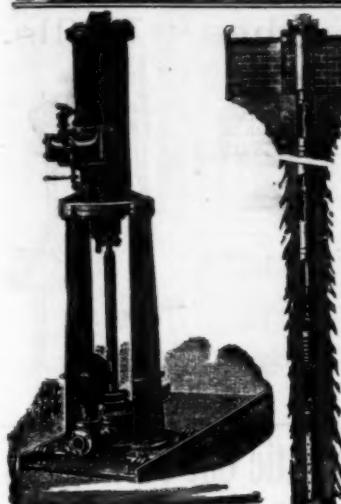
THE JOHN H. McCOWAN CO.
42, 44, 46 Central Ave., CINCINNATI, O. | Branch House, 1425 E. Main St., RICHMOND, VA.

HYDRAULIC JACKS.

BEST IMPROVEMENTS. MOST STYLES.

Hydraulic Presses, Hydraulic Pumps, Valves & Fittings,
Vreeland's Transfer Jacks, Hydraulic and Screw Punches,
LEVER PUNCHES AND SHEARS.

WATSON & STILLMAN
210 E. 43d Street, NEW YORK.

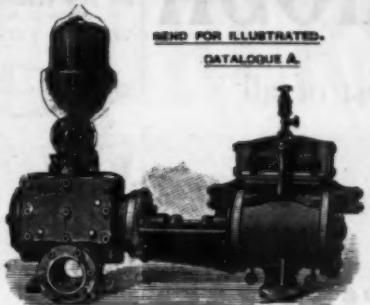


ARTESIAN WELL PUMPS.

CAMERON STEAM PUMPS.

PUMPS FOR
BOILER FEEDING
MINES
REFINERIES,
BREWERIES,
TANNERIES,
IRRIGATING,
FIRE PURPOSES,
RAILROADS &
FILLING TANKS.
CRANK & FLY WHEEL
& VACUUM PUMPS

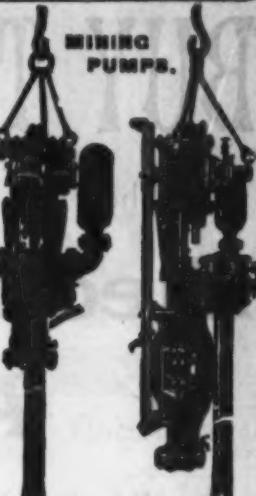
SEND FOR ILLUSTRATED
CATALOGUE A.



SIMPLE,
COMPACT,
DURABLE,
EFFICIENT.

ADAPTED TO ALL
PURPOSES.

NO OUTSIDE
VALVE GEAR.

MINING
PUMPS.

FOOT OF EAST 23D STREET.

NEW YORK.

PISTON PATTERN. PLUNGER PATTERN

CONSTRUCTION TOOLS

WELL TOOLS

NEW ERA

Railroad Builder, Wagon Road Grader, Wagon Loader, Scraper, Plows, Shovels, and Ditching Machine. It will place in an embankment 100 cubic yards of earth in 10 hours at a cost of from 1 1/2 to 2 1/2 cents per yard, or will load 600 wagons in same time.

W.E. D. THE LARGEST LINE OF WELL DRILLING TOOLS IN THE WORLD. CATALOGUE ON APPLICATION. F.C. AUSTIN MFG. CO. CARPENTER ST. AND VAIL AVE. CHICAGO, ILL. U.S.A.

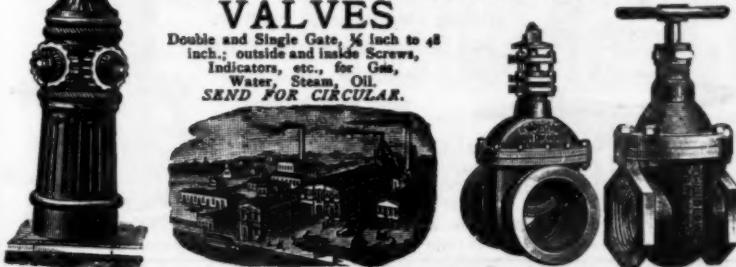
LUDLOW VALVE MFG. CO.

Office and Works: 938 to 954 River St., and 67 to 83 Vail Ave., Troy, N.Y.

VALVES

Double and Single Gate, $\frac{1}{4}$ inch to 48 inch.; outside and inside Screws, Indicators, etc., for Gas, Water, Steam, Oil.

SEND FOR CIRCULAR.



Also Fire Hydrants, Yard and Wash Hydrants, Check and Foot Valves.

The Addyston Pipe & Steel Co.

CINCINNATI, OHIO.

PROPRIETORS OF THE BUSINESS AND WORKS FORMERLY OPERATED BY THE CINCINNATI AND NEWPORT IRON AND PIPE COMPANY.

MATTHEW ADDY, President.
Geo. P. WILKINSON, Vice-President.
DWIGHT KINNEY, Sec. and Treasurer.
W. L. DAVIS, Contracting Agent.
J. K. DIMMICK, Gen. Super.



WORKS:

Addyston, O.
Newport, Ky.

For WATER, GAS, Railroad and Turnpike CULVERTS and SEWERS.
BRANCH CASTINGS OF ALL DESCRIPTIONS.

HYDRAULIC CYLINDERS. MACHINE CASTINGS and FLANGE PIPE.

OHATTANOOGA FOUNDRY & PIPE WORKS.
DAVID GILES, Pres. C. B. BRESTER, Vice-Pres. M. LLEWELLYN, Secy. and Treasurer.
Successors to B. GILES & CO. (Ottanooga, Tenn.), Manufacturers of



Also Castings and Patterns of Every Description made to order.

H. E. MCWANE, President and General Manager.

W. D. CAMPBELL, Secretary and Treasurer.

THE GLAMORGAN COMPANY, Proprietors of HILL CITY PIPE WORKS

Manufacture all kinds of Blast Furnaces, Coking and Mining Machinery; Boilers, Engines, Tramway and Construction Car Castings, and Tobacco Machinery, &c.

Prices on application.

LYNCHBURG, VA.

CLIFF'S R. H. WAGON SPRINGS. Titus & Babcock, Sole Agents, Rochester, N.Y.

D. SAUNDERS' SONS

MANUFACTURERS OF
PIPE CUTTING AND
THREADING MACHINES,
FOR PIPE MILL AND STEAM
FITTERS' USE.

TAPPING MACHINES

FOR STEAM FITTING. ALSO,
STEAM AND GAS FITTERS
HAND TOOLS,
ATHERTON STREET,
SEND FOR CIRCULAR.

TONKINS, N.Y.

Read This

Twice!—Now again!

Engineers, Machinists,
Steam Fitters, Boiler Makers,

or, for that matter, any Intelligent Man located in, or visiting, any part of the country where Steam Boilers are in use, can learn of an excellent opportunity to make money by introducing a small article for which a demand exists on every Steam Boiler, large or small.

Sample can be carried in the pocket.

Address, enclosing 4 cents in Stamps for full particulars, and mention where you saw this.

Box 906, Philadelphia, Pa.

Postal Cards not noticed.

THE ENGLISH MAIL BOX.

Laundry Machinery.

LARGEST STOCK.

LATEST IMPROVEMENTS.

FULLEST LINE.

Washing Machines,
Ironing Machines,
Centrifugal Machines,
Mangles, Wringers, &c.
BOILERS AND ENGINES.

OUTFITS FOR

Hotels and Public Institutions.

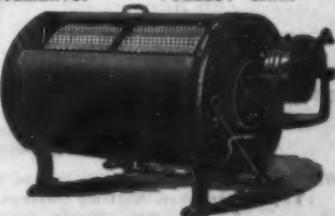
EXCLUSIVELY

THE A. M. DOLPH CO.

222 WASHINGTON STREET,
CHICAGO, ILL.

40 CORTLANDT STREET,
NEW YORK.

808 6TH ST. & FREEMAN AVE.
CINCINNATI, O.



BUY THE BRUSH

Then you will have the best of all

Electric ★

★ Apparatus

Write immediately for a catalogue regarding

Arc AND Incandescence, BRUSH LIGHTS AND MOTORS.

The Brush Electric Co.

CLEVELAND, O.

CHATTANOOGA, TENNESSEE.
CHATTANOOGA SAW WORKS.
MANUFACTURERS OF
SUPERIOR SAWs.
MOULDING KNIVES OF EVERY DESCRIPTION.
ESPECIAL ATTENTION
GIVEN TO THE REPAIRING OF ALL KINDS OF SAWs.

ARCTIC ICE MACHINE

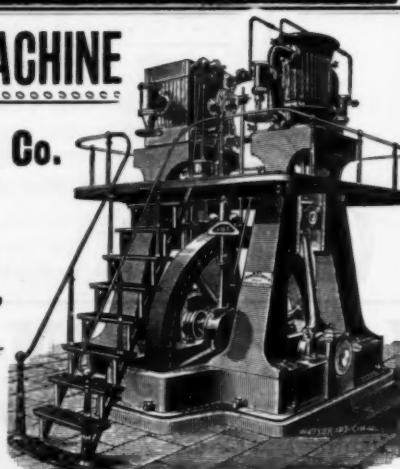
Manufacturing Co.

CLEVELAND, OHIO.

OFFICE AND WORKS,

4, 6, 8, 10 WEST ST.,
P. O. Box 92.

OUR OWN SHOPS.
MACHINES CARRIED IN STOCK
AND ORDERS
PROMPTLY EXECUTED.



THE STANDARD TOOL COMPANY. Cleveland, Ohio



Manufacturers of Bit Stock Drills, Straight Shank Drills, Taper Shank Drills
Taper Reamers, Milling Cutters, Chucks, Ratchet Drills, Screw-Driver
Bits, Twist Drill Grinding Machines.



BEFORE PURCHASING ELSEWHERE WRITE US FOR CATALOGUE AND PRICES UPON

Drag Scrapers, Wheel Scrapers, Grading Plows, Dump Carts,
Steel Sinks, Wheelbarrows of all kinds.

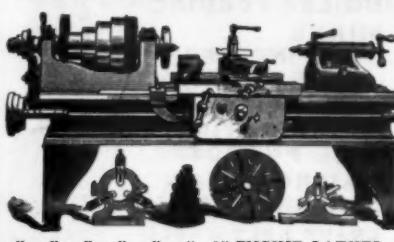
The Kilbourne & Jacobs Manfg. Co., Columbus, Ohio, U. S. A.

Shapers, Engine Lathes AND Drills.

LODGE, DAVIS & CO.

CINCINNATI, O.

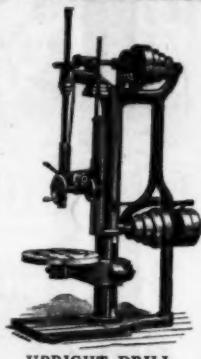
New York, 115 Liberty Street. Boston, 23 and 25 Purchase
St. Chicago, cor. Lake and Canal Sts. Philadelphia, 19 N. 7th St.
WRITE FOR PRICES. IT WILL PAY YOU.



17", 19", 21", 24", 27", 30", 38" ENGINE LATHES.

15 & 20-inch
CRANK.

20-26-32 inch
GEARED
SHAPERS.



UPRIGHT DRILL.

New Tangye Buckeye Automatic Cut-Off Engines

25 TO 1,000 H. P.

These engines are the combined results of long
experience with automatic cut-off regulation and
most careful revision of all details. They are
designed and constructed for heavy and continuous
duty at medium or high rotative speeds. Highest
attainable economy in steam consumption and
superior regulation guaranteed. Self-contained
Automatic Cut-off Engines, 12 to 100 horse-power,
for driving dynamo machines, a specialty. Illustrated
circulars, with various data as to practical
steam engine construction and performance, free
by mail. Address

IN USE, OVER 1,000.
SALE AGENTS—Phipps & Wiggs Machinery Co., Birmingham, Ala.; Jas. P. Creighton, Louisville, Ky.; N. W. Robinson, 154 Washington Street, Chicago, Ill. Buckeye Engine Co., Salem, Ohio.

E. E. GARVIN & CO.

Machinists, Manufacturers
♦ and Dealers, ♦
LAIGHT & CANAL STS.,
NEW YORK.
Lathes, Planers, Drills,
Milling Machines, Profilers,
Screw Machines, Cutter
Grinders, Gear Cut-
ting and Milling.
Index Drilling and Rack
Cutting. A good line of Second
Hand Tools always on hand.
A line of above tools can be seen at
THOMAS H. CAREY & BROS.,
26 Light St., Baltimore Agents.

SMALL GEAR CUTTER.

A. WYCKOFF & SON, ELMIRA, N. Y.

MANUFACTURERS OF
WOOD WATER PIPE
FOR
Coal and Iron Mines
COKE WORKS
AND
General Water
SUPPLY.
SEND FOR
CATALOGUES AND
PRICES.

SHEPARD HARDWARE CO.



HEADQUARTERS FOR
BLIND HINGES,
SHUTTER HINGES,
GATE HINGES,
ICE CREAM FREEZERS,
FRUIT PRESSES &c.

MAMMOTH
FOUNDRY
BUFFALO, NY

Buffalo Forges
BLOWERS & EXHAUSTERS.
HEATING FURNACES, HAND BLOWERS.
AND BLACKSMITH DRILLS.

BUFFALO FORGE CO.
BUFFALO, N.Y.

BEFORE PURCHASING ELSEWHERE WRITE US FOR CATALOGUE AND PRICES UPON

Drag Scrapers, Wheel Scrapers, Grading Plows, Dump Carts,
Steel Sinks, Wheelbarrows of all kinds.

The Kilbourne & Jacobs Manfg. Co., Columbus, Ohio, U. S. A.

